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ABSTRACT

Student attrition rates and retention efforts in the California State University and Colleges (CSUC) are summarized to assist policymakers and planners. Extensive supplementary materials are also provided, including four questionnaires, campus statistics, and worksheets for predicting withdrawal. Summaries for the 19 campuses of CSUC provide an overview and/or data, information on strategies and problems, and a list of reports. The narrative section also examines: the broader issue of enrollment planning, national and systemwide evidence about causes and consequences of college withdrawal, the more popular approaches to reducing student attrition, and recommendations. Retention and enrollment planning topics include: continuation and graduation rates in CSUC, transfer students, population trends, participation rates, and student workload. Correlates of attrition and retention are evaluated within the following categories: demographic, academic, motivational, and institutional factors. Retention strategies are grouped under the following approaches: research, organizational and procedural efforts, advising, and campus involvement. Finally, five major and five secondary recommendations for campuses and the system are offered, and appendices provide supplemental recommendations. A 27-page bibliography is included. (SW)

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ATTRITION AND RETENTION IN THE CALIFORNIA STATE UNIVERSITY AND COLLEGES

Stephen L. Daigle
Academic Resource Planning and Analysis
California State University, Fullerton

October 1979

ACKNOWLEDGMENTS

Several individuals on each of the 19 CSUC campuses contributed materials and personal reflections on student attrition at their campus. The time and assistance of the academic vice presidents, deans of student services, deans of admissions and records, institutional research directors, EOP directors, advisement personnel, and other campus administrative officers is greatly appreciated. Dr. Alexander Astin of the University of California, Los Angeles consented to a personal interview which was most instructive. The staff of the Chancellor's Office, particularly the Offices of New Program Development and Evaluation and Institutional Research, provided valuable assistance and direction at various stages in the study. The Office of Academic Resource Planning and Analysis at California State University, Fullerton generously provided time for the research. Funding was provided by the Office of New Program Development and Evaluation in the Chancellor's Office. All of these individuals and groups share in whatever positive contribution the report makes to the system or individual campuses. Needless to say, the conclusion, recommendations, and any errors in fact or judgment are the sole responsibility of the author.

Management Summary

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This study presents a summary of student attrition rates and retention efforts in The California State University and Colleges. The nature and extent of the problem are discussed in the context of broader conceptual issues related to national attrition rates and regional population trends.

Although the report may be of interest to student services deans, institution researchers, admissions and records officers, and advisement personnel, its primary audience is academic planners and vice presidents and campus presidents. The focus is broad and managerial rather than technical and operational. It is intended more as a guide for policy decision-making and planning than as a tool for program administration and data reference.

The findings and conclusions in the report are based on published data sources, campus documents, and interviews with key administrative officials on the 19 campuses.

The study first attempts to clarify some of the conceptual ambiguities associated with terms like attrition, retention, continuation, persistence, dropout, stopout, transfer, and the like. Distinctions are drawn between voluntary and involuntary withdrawal, between original educational goals and dropping out, between student failure and institutional failure, between "good" and "bad" attrition. Subsequent data on continuation and graduation rates in the CSUC and elsewhere must be interpreted with these distinctions in mind.

National and CSUC continuation and graduation rates are reviewed in an effort to assess the relative importance of re-entry and transfer behavior to student attrition. The general conclusion is that the extent of permanent student attrition (i.e., the failure to ever return to any institution) is usually exaggerated unless one is careful to track students across both time and space – intra-system and inter-segmental transfers constitute a significant proportion of dropouts from the entering institution.

Since age-related population trends set limits on college recruitment targets, student retention is examined within the broader issue of enrollment planning generally. Population projections for college-age groups in the state offer dramatic evidence of the importance of retaining the shrinking pool of students that is available. Similar declines in participation rates and student workload serve to reinforce trends pointing to a more non-traditional student clientele.

A considerable body of national and systemwide evidence on college withdrawal is reviewed. The causes and consequences of attrition are identified and evaluated within the following categories: demographic correlates, academic reasons, motivational and personal considerations, and institutional factors.

The report urges caution in reviewing data on self-report motivations for withdrawal and finds little statistical evidence to support many intuitive explanations of attrition. It seemed reasonable to draw the following conclusion:

> After hundreds of studies over several decades, the data offer few dramatic conclusions on which to base policy decisions and commit resources. The reasons for leaving college are as numerous and varied as one can imagine, and nowhere is there convincing evidence that any one variable (or combination of variables) adequately "explains" the phenomenon.

Within the CSUC, withdrawal reasons (as opposed to rates) seemed to vary little among the campuses and data on the system as a whole appeared to be broadly consistent with national findings. The two factors that did seem to distinguish campuses within the system were institutional size and residential status. Large campuses experienced different retention problems than small ones, and residential campuses differed from

commuter institutions. In the broadest sense, the CSUC system itself if "high risk" – i.e., both admission and demographic factors combine to produce a student population that is inherently less likely to persist.

The report offers a brief overview of some of the more popular approaches to reducing student attrition. Again, conceptual meanings of what constitutes a "retention strategy" are hazy, and there is almost no evaluation data on any of the approaches documenting their levels of effectiveness. Four categories of retention efforts are identified, and listings provided within each: research, organizational and procedural, advising, and campus involvement.

A brief profile of each campus is presented based on the following items:

1. Important facts about the institution or its students.
2. Innovative or significant efforts and strategies for addressing student attrition (including research studies).
3. Problems and perspectives (i.e., the judgments and conclusions of those interviewed).
4. Reports available.

No attempt is made to present explicit comparisons among the campuses, or to draw judgments about them based on attrition rates, retention efforts, research, and so forth. Rather, the more specific data and information are intended merely to serve as points of reference to guide future retention research and policy and program development in the system.

The study draws several major conclusions about the relationships between university management and student retention. The most important assumptions are that successful retention programs must be informed by systematic data, and that all serious retention efforts involve important resource decisions.

Five primary recommendations are offered for campus and systemwide consideration:

1. Development of a systemwide retention data base and reporting system.
2. Establishment of campus recruitment and retention offices.
3. Provision of resources for faculty advising.
4. Programs for stimulating residential environments for commuter campuses.
5. Procedural reforms in scheduling, admissions, and other bureaucratic functions. A list of secondary recommendations is also included, based on considerations of low cost and proven need.

A comprehensive bibliography, list of campus references, and technical appendix are provided.

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INTRODUCTION

Two problems have consistently plagued research on college attrition, one methodological and the other conceptual. The small samples and non-representative nature of many previous studies made broad generalizations difficult. However, given the recent, ambitious efforts by Astin, the NCES, and others[1], national representative data are increasingly available. Within the CSUC, the Division of Institutional Research has recently published *Those Who Stay - Phase II*, the most comprehensive summary available of systemwide data on student attrition.

The conceptual problem, however, continues to complicate studies of attrition rates, causes, consequences, and so forth. Attrition rates especially must be interpreted with extreme caution. Standardized definitions and measurement techniques are almost impossible to find.

Student attrition and retention are closely related to several other dimensions of enrollment planning: recruitment, admissions, transfer, stopout, and dropout. For example, a successful retention program will result in fewer demands being placed on recruitment activities and resources. A more selective admissions policy almost invariably decreases the attrition rate. Students who stopout or transfer may eventually earn degrees, although perhaps at a much later date or at another institution. It is unlikely that any institution will have either the resources or inclination to track students for a lifetime in order to determine whether they are pure dropouts from higher education, long-term stopouts from the original institution, or permanent transfers to another.

Another conceptual problem involves the distinction between dropout resulting from academic failure and that which is the outcome of voluntary withdrawal. Because of the failure to distinguish between dropout, stopout, transfer, academic failure, voluntary withdrawal, objective and subjective reasons, and initial expectations versus current goals, previous research has often produced findings contradictory in character and/or misleading in interpretation. Drawing policy implications from data which are conceptually fuzzy is obviously hazardous.

This report is intended to perform the following functions:

1. Identify the major attrition/retention patterns at each campus in the CSUC, the factors influencing these patterns, and existing proposal or programs for modifying them.
2. Relate the vast body of theoretical and empirical research nationally to the dominant patterns of student attrition in the CSUC; suggest to what extent and under what circumstances broader frameworks and conclusions appear to apply to the CSUC.
3. Serve as a summary, source document and reference guide for campus and systemwide administrators concerned with data analysis and policy decisions in the areas of attrition and retention; facilitate information exchange on data, policies, and programs.
4. Seek to identify programs, groups of students, and campuses where attrition is a significant problem, or where retention strategies are particularly effective.

Several sources of data and information were systematically collected for this study. The major ones include:

1. An extensive bibliography was compiled of scholarly research on student attrition and retention (see pages 114-144).
2. Attrition - related reports, surveys, studies, etc., were collected from the 19 campuses and the Chancellor's Office (see pages 67-89).
3. Detailed interviews were conducted with most of the following administrators on each of the CSUC campuses: Vice President for Academic Affairs; Director of Institutional Research; Dean of Student Services; Director of Admissions; and EOP Directors. Additionally, interviews were conducted with selected individuals in the Chancellor's Office.

It is increasingly apparent that withdrawal can have positive as well as negative consequences for the

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[1] See the Bibliographic references

student. For some, their personal, academic, or vocational goals can best be achieved by leaving a particular institution (or higher education altogether) before receiving a degree. An open admissions policy can hardly be expected to insure a perfect fit between the needs and abilities of the individual and a campus' academic program. For other students, a change in goals may make continuation impractical or irrelevant. Many others enter with little or no intention to earn a degree at a given campus in the first place. Thus, some amount of attrition is normal, predictable, and even preferable.

On the other hand, excessive attrition usually implies the existence of institutional impediments to student development, and as such, deserves the close attention of University administrators. Institutional failure of this nature imposes an obvious financial burden on the institution, but it also results in serious temporal, financial, and psychic costs to the public the system is designed to serve. A major concern of this report, therefore must be to determine the nature and extent of institutional determinants of student attrition. Presumably, attrition due to broader social, psychological, and cultural forces are beyond the direct control or responsibility of the individual campus.

The "revolving door" thesis of student withdrawal suggests that change (i.e., leaving college) often has positive implications for individual development, whether financial, social, psychological, or intellectual. In an era of rapid social and cultural change, individual change and adaptation is essential. Accordingly, the role of the university should be one of facilitating personal growth and adaptation, even if it means leaving the college environment. At the same time, admissions policies should be sufficiently flexible to permit re-entry as conditions change.

One of the flaws in this logic (according to Alexander Astin) is that most data indicate that students seldom leave for positive, developmental reasons. Rather, they tend to leave because they have some kind of personal problem, need, complaint, etc. which the University was unable to help resolve. From this perspective, the prevailing "negativism" which pervades research and discussions on student dropout may be well placed. Either the student leaves because he has a problem, or the University is left with a problem because the student leaves. Even when the student gains something from his educational experience, and benefits further from leaving, the University loses in a more immediate and practical sense.

Although earning a degree may not be the ultimate measure of individual or institutional success, it certainly is the most tangible evidence of congruence between individual needs and institutional services. Since the political and financial costs of not retaining students are potentially so great, it makes good sense from the institution's perspective to treat attrition as a managerial problem which requires systematic study and concerted action. This report attempts to sort out, in rather broad strokes, some of the major issues on the subject.

One stylistic feature deserves mention. In an attempt to make the report more readable, lengthy bibliographic citations and footnotes have been omitted when possible. Those that do appear are in abbreviated form but can be traced to the bibliography at the end.

RETENTION AND ENROLLMENT PLANNING

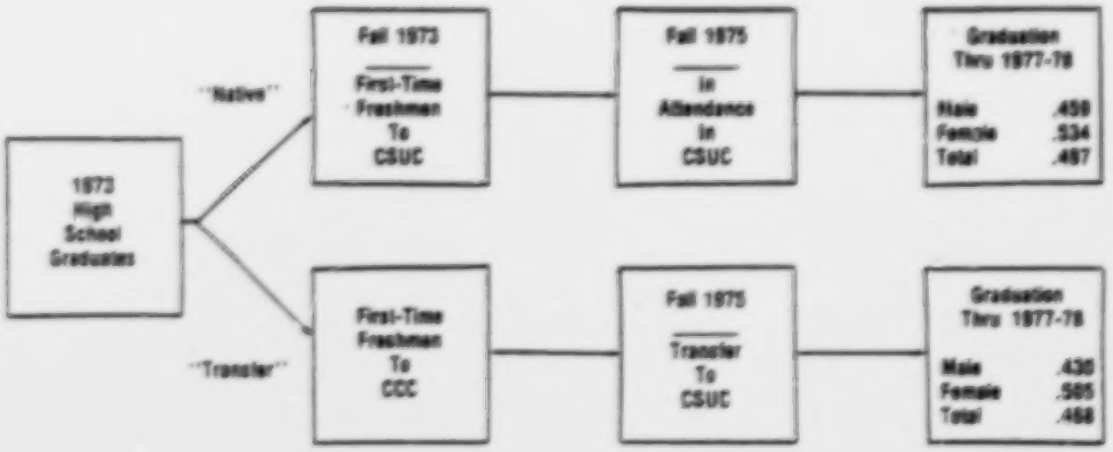
The general consequence of examining gross figures on such things as dropout, stopout, graduation rates and so forth has been to overstate the degree of permanent student attrition (i.e., the failure to return to any institution). Unless one is prepared to track every entering student to the grave, the notion of a permanent dropout has little meaning. A significant proportion of dropouts eventually re-enter college and complete their education. In the NCES* national survey, about one-fourth of the freshmen dropouts from four-year institutions returned to college within one year, and about one-fifth who had not re-entered within two years were planning to do so in the following year. Among both academic (involuntary) and non-academic (voluntary) dropouts, the primary reasons for not returning to college were lack of time or money; interest in higher education per se (if not in a particular institution) dies rather slowly after even a brief exposure.

Continuation and Graduation Rates in CSUC

Data from within the CSUC reveal that, after five years, 30% of the entering freshmen graduated from the initial college, 15% had transferred out of the system, 9% were still attending the initial college, 23% had left in good academic standing, 9% had left with a GPA below "C", and 13% had been dismissed for poor academic performance. Only 13% of new freshmen graduate from the initial institution in four years. CSUC data from 1976 and 1979 studies show that 54% of new freshmen persisted for two years at the initial campus, and 5.3% had transferred elsewhere in the system after two years; the continuation rate for junior transfers was 46.3% after two years. The chart below reflects graduation rates by sex of native and transfer students within the system five years following initial matriculation.

All evidence on attrition points to the freshman, and to a far less extent, the sophomore years as the critical periods for losing or retaining students. Attrition among new students (including transfers) is always high, but especially in the lower division. The NCES data show that the academic withdrawal rate for freshmen is more than twice that for sophomores. Thus, the difference between freshmen and sophomore withdrawal rates is attributable almost entirely to academic problems; more of the less able (or motivated) students leave early. Greater selectivity in admissions is one obvious means of combating this form of attrition; advising and retention programs for freshmen offer more positive approaches.

GRADUATION RATES OF "NATIVE" AND "TRANSFER" STUDENTS



Source: *Those Who Stay - Phase II*

*National Center for Educational Statistics

Some estimates suggest that 40-50% of an entering freshman class will graduate in four years, 20-30% will graduate "sometime, somewhere," and 30-40% never receive degrees. Some studies are able to show that as much as 80% of an entering freshman class eventually receive a degree sometime during the decade following their admission.

Thus, it is readily apparent that a "loss" to a particular college obviously does not mean that the student may be lost to higher education altogether. Nationally, about four in ten students graduate from their entering college in four years. One more will eventually graduate from the entering institution in more than four years. Four will transfer to a different college, and two of these four will graduate. Thus, about 70% of entering students on a campus eventually earn degrees, although the time and place vary widely. Furthermore, of the six students who left the entering campus, three did so during the first year, and two more during the second year. These figures have been consistently confirmed through a series of careful studies over the past several decades.

The most important sources of data on continuation rates in the system are provided by the two-part publication, *Those Who Stay*, issued by the Division of Institutional Research in 1976 and 1979. The most significant findings from the latter study are summarized below:

1. Continuation rates and graduation rates for first-time freshmen and community colleges transfers vary significantly when compared by CSUC campuses.
2. Continuation rates and graduation rates of female students are generally higher than those for males in nearly all comparisons.
3. There are significant differences, both for freshmen and transfers, in graduation rates when comparing regularly admitted students with exceptional admits.
4. Graduation rates of minority students, in general, run significantly behind those for white non-Hispanic students.
5. There are significant differences found in the graduation rates among separately identified minority groups.
6. Comparable groups of 1963 freshmen had somewhat higher graduation rates than those reported for 1973 freshmen.
7. There have been continued declines in continuation rates of entering freshmen groups between Fall 1973 and Fall 1977.
8. In general, graduation rates of first-time freshmen are higher for the fifth year than for four years.
9. While the Fall 1963 freshmen switched in significant numbers from other majors to the social sciences prior to graduation, the current study group (Fall 1973) has reversed the trend.

Table 1 and Figure A display the continuation rates of Fall 1973 first-time freshmen by campus for successive Fall terms. Continuation rates are shown both for the initial campus and within the system. The system realized a continuation rate of .526 entering the fourth year of attendance, including inter-campus transfers. Only San Luis Obispo was able to exceed that rate for its own students (.555). It is quite apparent from these data that it matters a great deal (in terms of rates) whether persistence, continuation, retention, etc., is defined from the perspective of the original campus, or from the perspective of the system generally. Attrition to one is often retention to the other.

Five-year graduation rates (Table 2 and Figure B) show much the same pattern except that Chico and Fresno lead the system, with San Luis Obispo third. In addition, note the disproportionate tendency for students originating at small, rural campuses to graduate elsewhere in the system. The relatively low rates at Sonoma, Dominguez Hills, and Los Angeles deserve close attention.

Table 1

Continuation Rates of Fall 1973 CSUC First-Time Freshmen For Successive Fall Terms

Campus of First Attendance	Enrolled Fall 1973	At Same Campus					Within The System				
		1974	1975	1976	1977	1978	1974	1975	1976	1977	1978
Bakersfield	239	.686	.423	.360	.209	.117	.728	.539	.468	.322	.175
Chico	1.364	.758	.583	.488	.302	.104	.790	.645	.570	.384	.156
Dominguez Hills	331	.659	.474	.372	.269	.109	.700	.549	.441	.335	.178
Fresno	1.187	.731	.603	.511	.352	.186	.754	.648	.562	.403	.217
Fullerton	1.507	.728	.564	.471	.348	.165	.758	.629	.551	.417	.216
Hayward	1.090	.619	.451	.372	.236	.122	.648	.515	.455	.323	.177
Humboldt	896	.694	.498	.402	.319	.124	.732	.574	.510	.416	.195
Long Beach	2.259	.698	.553	.481	.370	.186	.721	.590	.529	.427	.231
Los Angeles	1.069	.725	.532	.443	.349	.242	.746	.572	.485	.386	.265
Northridge	2.320	.705	.545	.463	.362	.202	.736	.588	.516	.421	.244
Pomona*	(1.094)										
Sacramento	1.037	.690	.530	.458	.325	.163	.711	.579	.508	.366	.197
San Bernardino	211	.559	.379	.318	.204	.085	.611	.454	.426	.308	.165
San Diego	2.566	.746	.552	.479	.344	.172	.768	.604	.551	.414	.220
San Francisco	1.366	.743	.545	.456	.322	.176	.774	.597	.506	.367	.208
San Jose	2.128	.657	.513	.459	.323	.154	.675	.553	.508	.373	.186
San Luis Obispo	1.923	.759	.618	.555	.332	.111	.783	.674	.615	.403	.165
Sonoma	418	.577	.328	.239	.153	.081	.617	.418	.361	.277	.174
Stanislaus	155	.639	.387	.335	.168	.084	.677	.496	.451	.264	.148
Systemwide	22.066	.708	.540	.461	.326	.160	.735	.593	.526	.391	.206

*Students not identified by Social Security Number in Fall 1973. Campus data not included in totals.

Table 2

Five-year Graduation Rates of Fall 1973 CSUC First-time Freshmen by CSUC Campus

Campus of First Attendance	Enrolled Fall 1973	Graduated At Same Campus		Graduated At Same Campus		Rate All Campuses
		Number	Rate	Number	Rate	
Bakersfield	239	62	.259	12	.050	.310
Chico	1.364	510	.374	54	.040	.413
Dominguez Hills	331	62	.187	14	.042	.230
Fresno	1.187	413	.348	34	.029	.377
Fullerton	1.507	431	.286	54	.036	.322
Hayward	1.090	228	.209	46	.042	.251
Humboldt	896	207	.231	48	.054	.285
Long Beach	2.259	586	.259	47	.021	.280
Los Angeles	1.069	145	.136	14	.013	.149
Northridge	2.230	517	.223	65	.028	.251
Pomona*	(1.094)					
Sacramento	1.037	266	.257	25	.024	.281
San Bernardino	211	48	.227	9	.043	.270
San Diego	2.566	680	.265	86	.034	.299
San Francisco	1.366	360	.264	28	.020	.284
San Jose	2.128	574	.270	52	.024	.294
San Luis Obispo	1.923	652	.339	65	.034	.373
Sonoma	418	55	.158	27	.065	.222
Stanislaus	155	38	.245	9	.058	.303
Systemwide	22.066	5.845	.265	689	.031	.296

*Students not identified by Social Security Number in Fall 1973. Campus data not included in totals.

Note: Graduation rates may not add horizontally to total due to independent rounding.

FIGURE A: CONTINUATION RATES FALL 1973 to FALL 1976 (FRESHMAN)

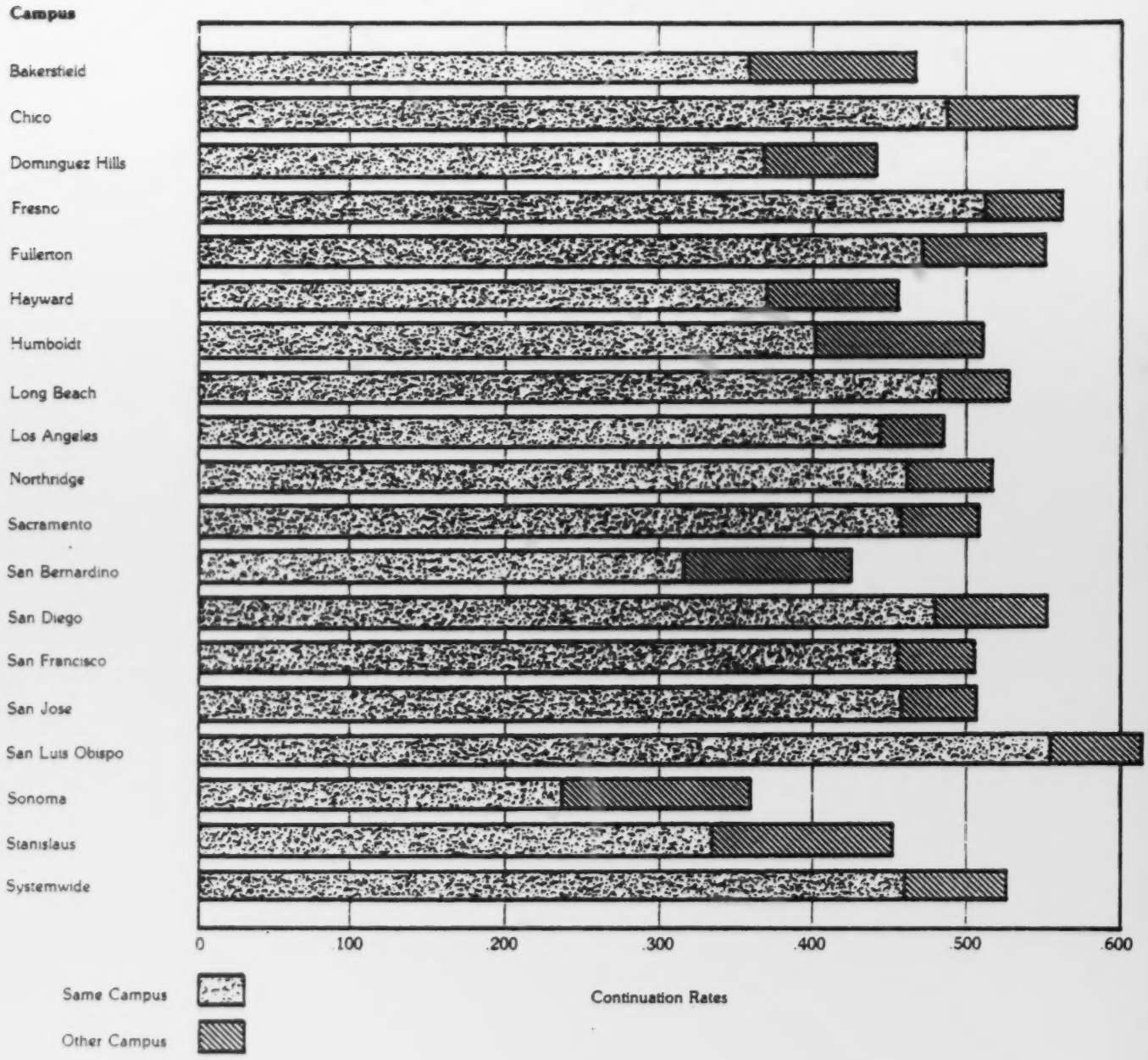
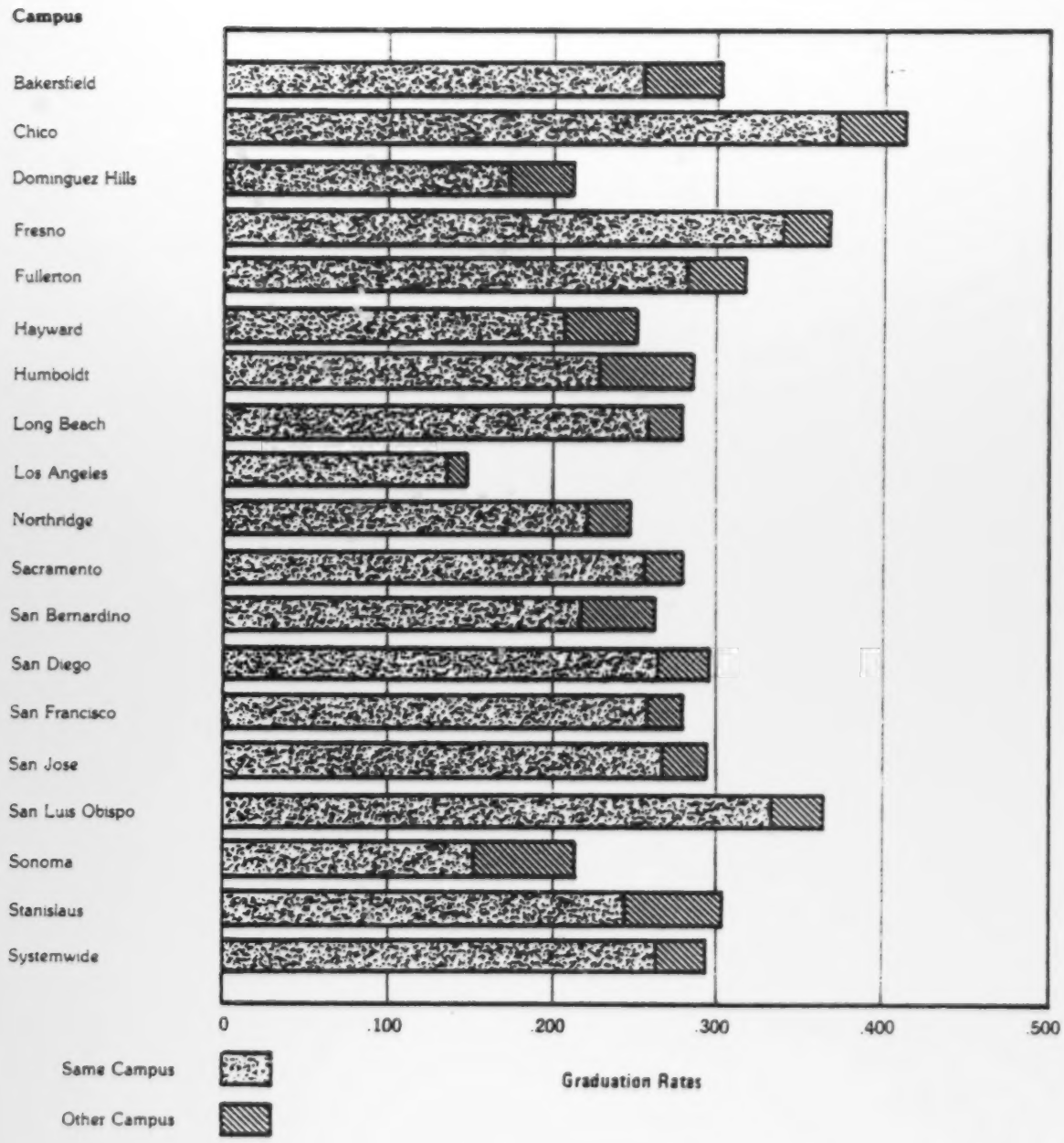


FIGURE B: FIVE YEAR GRADUATION RATES (FRESHMAN)



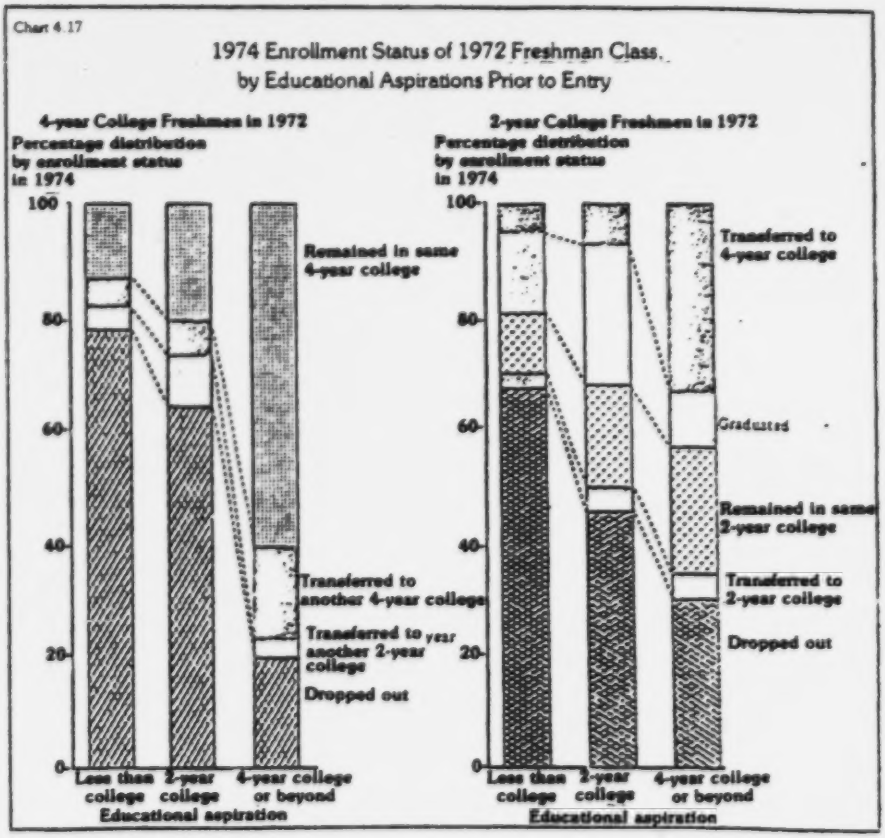
TRANSFER STUDENTS

To the institution losing a student, attrition is unidimensional in meaning and unidirectional in impact. It matters little in the short term whether the student is a stopout, a transfer, or a permanent dropout from higher education. But attrition must be examined and understood in a broader context of merely whether a student is present or absent at the initial institution at a given (usually contiguous) point in time. He may have transferred, and thus is not a pure dropout. About 19% of all four-year college students transfer within two years after initial matriculation. Of those transfers, 84% moved to other four-year colleges, and 16% transferred to two-year colleges. About 8% move 4 – ► 4 within the first year, and about 9% the second year. Of the 4 – ► 2 transfers in the first year (3%), many might move back to four-year institutions the following year. Moreover, a larger school seems to be better equipped to combat the 4 – ► 4 transfer rate.

Table 3 shows the effects of a student's educational aspirations prior to entry upon staying in the original institution, transferring, or dropping out. Clearly, the greater the level of commitment to a four-year college, the less "dropout-prone" the student will be. The charts also suggest that such commitments may promote attrition in the form of transfer behavior. Thus, a campus may lose something, but higher education in general does not. Attrition rates are usually misinterpreted unless one is careful to sort out the extent and meaning of student transfers and re-entry. Tables 4 and 5 offer additional evidence on this point, among both academically and non-academically related withdrawals; one-fourth to one-third of freshmen and fully one-half of sophomores either plan or do re-enter college, usually in a relatively brief span of time.

Table 3

By 1974, the majority of freshmen who entered 4-year colleges in 1972 and had aspired to less than a bachelor's degree had dropped out of school. Among 2-year college freshmen, those who had aspired to less than a college education were also likely to have left school. More than ¾ of the 4-year college freshmen who had desired a baccalaureate degree or beyond remained enrolled in 4-year institutions in 1974.



Source of Data: National Center for Education Statistics, National Longitudinal Study

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Table 4

PERCENTAGES OF FRESHMEN WITHDRAWALS RE-ENTERING OR PLANNING TO RE-ENTER COLLEGES

Withdrawal Category	Re-Entered College In 1974[1]	Planning to Re-Enter College In 1975[2]
Four-Year College Withdrawals		
Academic	23.16 (N = 262)[3]	23.57 (N = 200)
Nonacademic	32.63† (N = 706)	20.38 (N = 488)
Two-Year College Withdrawals		
Academic	17.89 (N = 169)	12.42†† (N = 143)
Nonacademic	18.24††† (N = 693)	19.81 (N = 562)

† Academic withdrawals significantly differed from nonacademic withdrawals ($|Z| > 2.33$).

†† Four-year college academic withdrawals significantly differed from two-year college academic withdrawals ($|Z| > 2.33$).

††† Four-year college nonacademic withdrawals significantly differed from two-year college nonacademic withdrawals ($|Z| > 2.33$).

[1] Percent who withdrew for one year and then re-entered college.

[2] Percent who continued withdrawal status for a second year but who planned to re-enter the next year.

[3] N's are bases for the percentages.

Source: NCES National Longitudinal Study

Table 5

PERCENTAGES OF SOPHOMORE WITHDRAWALS WHO PLANNED TO CONTINUE COLLEGE A YEAR LATER

Withdrawal Category	Planning to Continue College	Sample N
Four-Year College Withdrawals		
Academic	54.94	92
Nonacademic	52.04	563
Two-Year College Withdrawals		
Academic	30.20*	45
Nonacademic	37.14*	360

*Two-year college withdrawals had a significantly lower percentage than four-year college withdrawals ($|Z| > 2.33$, or $p < .01$).

Source: NCES National Longitudinal Study

Inter-segmental mobility is one of the most important features of the California system of higher education. This may account for the somewhat lower continuation and graduation rates for campuses of initial entry in the CSUC when compared to national data. About 70,000 undergraduates currently transfer into the CSUC each year, roughly 72% from community colleges. Although there is a long-term decline in the transfer rates of community college students to the CSUC (.193 in 1970-71 and .169 in 1977-78), there is very little sense of segmental, much less campus, barriers to movement. Transferring appears to be a regional, cultural phenomenon as much as anything else. Tables 6 and 7 and Figures C and D present the transfer continuation and (three-year) graduation rates for each campus in the system. Again, San Luis Obispo had the highest continuation rate, and Fresno the highest graduation rate.

Table 6

CONTINUATION RATES OF FALL 1975 CSUC UNDERGRADUATE TRANSFERS FROM CALIFORNIA COMMUNITY COLLEGES, FOR SUCCESSIVE FALL TERMS

Campus of First Attendance	Enrolled Fall 1975	At Same Campus			Within The System		
		1976	1977	1978	1976	1977	1978
Bakersfield	376	.559	.324	.181	.601	.378	.218
Chico	2,046	.687	.453	.205	.739	.529	.261
Dominguez Hills	1,124	.659	.431	.214	.693	.474	.244
Fresno	1,822	.722	.490	.237	.741	.528	.267
Fullerton	2,599	.679	.437	.225	.709	.476	.259
Hayward	1,078	.576	.353	.152	.609	.410	.199
Humboldt	833	.677	.501	.236	.731	.565	.294
Long Beach	3,796	.678	.466	.254	.709	.508	.291
Los Angeles	2,042	.637	.427	.257	.656	.455	.286
Northridge	2,550	.680	.473	.241	.704	.502	.271
Pomona	1,583	.663	.455	.226	.701	.505	.263
Sacramento	2,775	.673	.436	.207	.705	.474	.240
San Bernardino	646	.551	.339	.166	.604	.389	.204
San Diego	3,352	.704	.478	.240	.753	.537	.285
Calexico Center	79	.684	.506	.278	.696	.519	.316
San Francisco	2,803	.666	.425	.203	.698	.463	.235
San Jose	3,100	.674	.437	.198	.698	.464	.223
San Luis Obispo	1,405	.752	.564	.234	.805	.621	.283
Sonoma	964	.618	.326	.157	.649	.368	.201
Stanislaus	554	.567	.357	.164	.593	.412	.193
Systemwide	35,527	.671	.446	.220	.705	.490	.257

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FIGURE C: CONTINUATION RATES FALL 1975 TO FALL 1977 (TRANSFER)

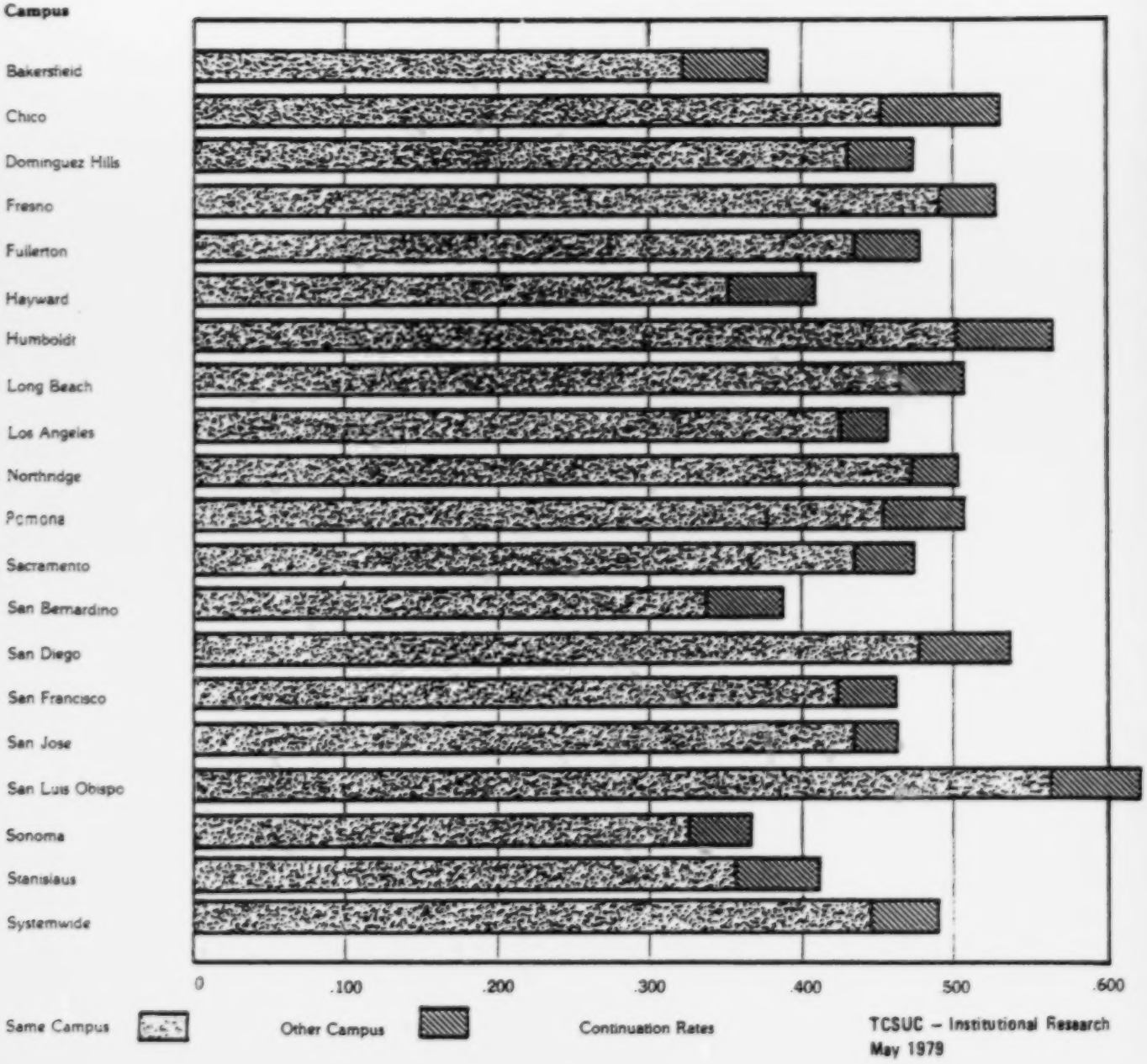


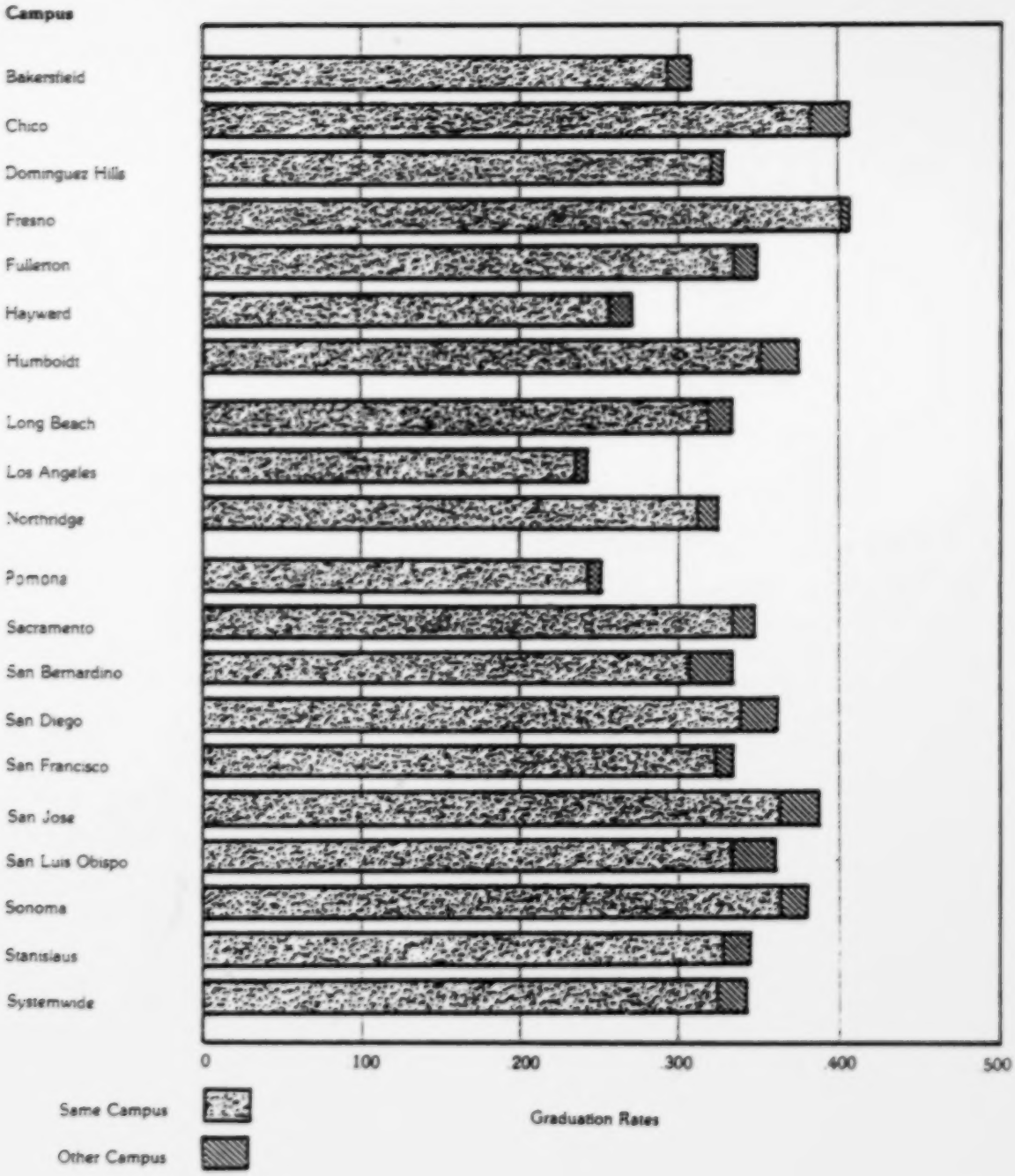
Table 7

THREE-YEAR GRADUATION RATES OF FALL 1975 CSUC UNDERGRADUATE TRANSFERS BY CSUC CAMPUS

Campus of First Attendance	Enrolled Fall 1975	Graduated At Same Campus		Graduated At Other Campus		Rate All Campuses
		Number	Rate	Number	Rate	
Bakersfield	376	110	.293	5	.013	.306
Chico	2,046	781	.382	51	.025	.407
Dominguez Hills	1,124	360	.320	8	.007	.327
Fresno	1,822	728	.400	14	.008	.407
Fullerton	2,599	876	.337	31	.012	.349
Hayward	1,078	278	.258	13	.012	.270
Humboldt	833	293	.352	19	.023	.375
Long Beach	3,796	1,211	.319	44	.012	.331
Los Angeles	2,042	480	.235	12	.006	.241
Northridge	2,550	794	.311	29	.011	.323
Pomona	1,583	382	.241	13	.008	.250
Sacramento	2,775	921	.332	42	.015	.347
San Bernardino	646	199	.308	16	.025	.333
San Diego	3,352	1,135	.339	76	.023	.361
Calexico Center	79	22	.278	0	.000	.278
San Francisco	2,803	905	.323	33	.012	.335
San Jose	3,100	1,125	.363	47	.015	.378
San Luis Obispo	1,405	471	.335	35	.025	.360
Sonoma	964	350	.363	15	.016	.379
Stanislaus	554	182	.329	10	.018	.347
Consortium	0	0	.000	0	.000	.000
Systemwide	35,527	11,603	.327	513	.014	.341

Note: Graduation rates may not add horizontally due to independent rounding.

FIGURE D: THREE-YEAR GRADUATION RATES (TRANSFER)



This report will not attempt to explain the comparative continuation and graduation rates for first-time freshmen or undergraduate transfers. Campus officials are in a better position to analyze and act on the relative ranks of their institutions. There are a few patterns in the data when examined by size and type of campus, but they usually hold for only one or two of the following four combinations:

	Rates	
Type of Student	**Continuation**	**Graduation**
First-time Freshmen		
Undergraduate Transfer		

For example, small, rural campuses score low in transfer continuation rates, but are about average in graduation rates for the same group.

POPULATION TRENDS

The importance of student attrition and retention must ultimately be understood in the broader context of enrollment planning generally. To the extent that fewer students leave, fewer replacements have to be recruited to maintain a given base of enrollments and resource allocation. If attrition is high, a university is dependent not only on its recruitment efforts, but on the available supply of potential students in its area. The supply question is best approached in terms of population trends and projections by age categories. When age and area population projections are related to participation rates, and then to workload trends by age and sex, the FTES impact of student retention assumes greater meaning and urgency.

The most recent NCES figures indicate that the 18-24 age group will drop by 13% nationally between 1979 and 1990, and 22.5% by 1996. In addition, the percentage of 18 year olds will decline 18% by 1986. The slight increases that have been witnessed in higher education enrollments in the past few years can be traced to the end of the 18-24 year old growth cycle. These trends are apparent in California as well: the next decade will mark sharp declines in the traditional college-age cohorts in the state (Tables 8, 9, & 10). Of course, these are projections about which one can be relatively certain.

Table 8

Median Ages in Selected California Counties: 1975-2000

County	1975	1980	1985	1990	1995	2000
Alameda	29.3	31.3	33.0	34.2	35.5	36.9
Contra Costa	29.9	32.2	34.0	35.3	36.8	38.5
Fresno	27.0	28.5	30.0	31.3	32.7	33.9
Los Angeles	30.0	31.1	32.0	32.8	33.8	34.8
Orange	28.2	30.5	32.4	34.3	36.1	38.0
Riverside	30.6	32.0	33.1	34.4	35.6	37.0
Sacramento	28.6	30.7	32.5	34.0	36.0	37.8
San Bernardino	27.6	29.1	30.2	31.4	32.9	34.2
San Diego	27.3	29.3	31.2	32.5	34.0	35.4
San Francisco	35.1	35.3	36.0	37.3	38.1	38.3
San Mateo	33.5	35.8	37.9	39.7	41.2	42.7
Santa Clara	27.6	29.5	31.0	32.2	33.8	35.3
Ventura	26.7	28.9	30.6	32.1	33.7	35.5
State	29.2	30.8	32.1	33.3	34.7	36.0

Source: Population Research Unit, California Department of Finance

Table 9

Trends in the Age Distribution of California Population, Aged 18 to 64

	18-19		20-24		25-29		30-34		35-64	
	Number (000)	Percent of 18-64 Pop.	Number (000)	Percent of 18-64 Pop.	Number (000)	Percent of 18-64 Pop.	Number (000)	Percent of 18-64 Pop.	Number (000)	Percent of 18-64 Pop.
1978 Population . .	822	6%	1,972	14%	1,966	14%	1,861	14%	7,091	52%
	Projected Change in 18-19 Population from 1978 Actual		Projected Change in 20-24 Population from 1978 Actual		Projected Change in 25-29 Population from 1978 Actual		Projected Change in 30-34 Population from 1978 Actual		Projected Change in 35-64 Population from 1978 Actual	
1980	1%		3%		1%		7%		5%	
1985	-7%		6%		6%		14%		20%	
1990	-17%		-5%		9%		18%		34%	
1995	-11%		-10%		-3%		21%		50%	
2000	5%		-1%		-11%		8%		67%	
	Current Rate of Participation in Public Higher Education by 18-19 Year Olds		Current Rate of Participation in Public Higher Education by 18-19 Year Olds		Current Rate of Participation in Public Higher Education by 18-19 Year Olds		Current Rate of Participation in Public Higher Education by 18-19 Year Olds		Current Rate of Participation Public Higher Education by 18-19 Year Olds	
	44%		26%		13%		9%		5%	

Source: Population Research Unit, California Department of Finance

Table 10

Projected California Population in Selected Age Groups*: 1975-2000

Age Group	1975	1980	1985	1990	1995	2000
18-19	3.6	3.6	3.1	2.6	2.8	2.9
20-24	9.1	8.9	8.5	7.1	6.2	6.7
25-29	8.8	8.7	8.5	8.2	6.9	7.0
30-34	7.5	8.7	8.6	8.4	8.1	6.9
35-39	6.1	7.3	8.5	8.4	8.2	8.0
40-49	11.3	11.2	12.4	14.6	15.8	15.8

*Expressed as percentages of the total state population.

Source: Population Research Unit, California Department of Finance

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All available data in the CSUC and elsewhere point to a growing student population that is older and that is employed at least part time. Based on the current group of individuals 14 years of age and above, current population figures indicate that the 18-24 year old population will begin to decline in 1983. This anticipated decline, together with the growth in participation rates among the over-25 population, is likely to produce an undergraduate population that is heavily non-traditional in 1985 and beyond. Table 11 is drawn from the latest figures supplied by the Division of Educational Programs and Resources and confirms the direction and magnitude of these trends for the CSUC. Table 12 examines the percent distribution of undergraduate enrollment by sex and age group from 1973 to 1978. Note the steep decline in males, age 25-29.

Although state and regional demographic data pose useful background information, campus and discipline data offer more precise indications of future enrollment prospects. Appendix A shows the percentage distribution of majors by age category and level. Notice the slight tendency for Humanities and Social Science disciplines to attract somewhat older students; this fact can be expected to benefit such disciplines in the future, but less than might be expected due to the lower workloads for older students.

PARTICIPATION RATES

Once age and area-specific population trends have been examined, the next step is to calculate possible "yield" or participation rates from the various categories for a given year, campus, discipline, etc. The male 25-29 age category is of particular interest in the system. This group has experienced a decline of 30 percent since 1973. Their participation rates fell from .035 in 1973 to .021 in 1978 (Table 13). The only other significant change in yield in the five year period was for females age 20-24 (from .055 to .062). Tables 14 and 15 present additional age-yield data developed by the Division of Institutional Research.

Table 11

CSUC Comparative Data 1970 and 1977

	1970	1977
Students age 25 and over as a percent of all undergraduates	19.4%	29.2%
Students age 25 and over as a percent of all graduate students	69.0%	80.9%
Students age 25 and over as a percent of all students	34.2%	41.2%
Participation rates of 25-39 year olds (Rate per 1,000 population) of undergraduate students 25 and over	11.99%	13.71%
Participation rates of all students 25 and over	21.5%	25.21%
Ratio of full-time to part-time students, all levels	2.23 to 1	1.46 to 1

Source: Educational Programs and Resources

Table 12

PERCENT DISTRIBUTION OF UNDERGRADUATE ENROLLMENT BY SEX AND AGE GROUP SYSTEMWIDE, FALL 1973 TO 1978

	Sex and Year	19 & Under	20 to 24	25 to 29	30 to 34	35 & Over	Total All Ages
Male	1973	15.3	49.0	23.5	6.9	5.3	100.0
	1974	15.7	49.3	22.4	7.0	5.6	100.0
	1975	15.2	48.9	21.5	7.7	6.7	100.0
	1976	16.1	51.1	19.4	7.6	5.7	100.0
	1977	16.4	52.0	18.2	7.9	5.5	100.0
	1978	17.1	52.9	17.3	7.6	5.2	100.0
Female	1973	24.8	52.5	9.9	4.8	8.0	100.0
	1974	24.7	51.9	10.6	4.9	7.9	100.0
	1975	23.5	51.7	11.3	5.2	8.2	100.0
	1976	23.2	51.8	11.4	5.6	8.1	100.0
	1977	22.4	51.1	11.6	6.2	8.7	100.0
	1978	22.6	50.7	11.5	6.3	8.9	100.0
Total (M & F)	1973	19.4	50.5	17.7	6.0	6.4	100.0
	1974	19.7	50.5	17.2	6.1	6.6	100.0
	1975	18.9	50.1	17.0	6.6	7.4	100.0
	1976	19.4	51.4	15.7	6.7	6.8	100.0
	1977	19.2	51.6	15.1	7.1	7.0	100.0
	1978	19.8	51.8	14.5	6.9	7.0	100.0

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Table 13

PARTICIPATION RATES OF UNDERGRADUATE STUDENTS BY SEX AND AGE GROUP SYSTEMWIDE, FALL 1973 TO 1978

	Sex and Year	19 & Under	20 to 24	25 to 29	30 to 34	35 & Over	Total All Ages
Male	1973	.034	.065	.035	.013	.011	.057
	1974	.034	.063	.031	.012	.011	.055
	1975	.034	.065	.030	.013	.014	.057
	1976	.033	.064	.025	.011	.011	.053
	1977	.033	.064	.023	.011	.010	.052
	1978	.033	.062	.021	.010	.009	.050
Female	1973	.043	.055	.011	.007	.012	.043
	1974	.045	.056	.012	.007	.013	.044
	1975	.045	.059	.013	.007	.014	.047
	1976	.044	.060	.013	.007	.013	.047
	1977	.043	.062	.014	.008	.015	.049
	1978	.044	.062	.014	.008	.014	.050
Total (M & F)	1973	.038	.060	.023	.010	.012	.051
	1974	.039	.060	.022	.009	.012	.051
	1975	.039	.062	.022	.010	.014	.053
	1976	.038	.062	.019	.009	.012	.051
	1977	.038	.063	.019	.010	.012	.051
	1978	.038	.063	.018	.009	.011	.050

NOTE: Rates for 19 & under enrollment based on 17 to 19 year old population.
Rates for 35 & over enrollment based on 35 to 39 year old population.
Rates for total enrollment, all ages, based on 18 to 29 year old population.

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Table 14

Participation Rates for Selected Age Groups: 1977

	Calif. Population	First-Time Freshmen	UG Transfers	Continuing & Returning	Total Undergraduate
« 20	1,210,300	.0196	.0033	.0148	.0381
20-24	1,962,000	.0005	.0126	.0487	.0564
25-29	1,939,200	.0001	.0038	.0147	.0186
30-34	1,774,700	.0001	.0020	.0075	.0095
35-39	1,381,800	.0001	.0028	.0093	.0122
18-24	2,761,800	.0092	.0166	.0611	.0869

Table 15

CSUC Participation Rates of 18-24 Year Old Population: 1967-1977

Year	First-time Freshmen	Transfers	Continuing & Returning	Total Undergraduate
1967	.0077	.0133	.0439	.0649
1968	.0087	.0153	.0479	.0718
1969	.0077	.0145	.0511	.0732
1970	.0080	.0142	.0546	.0767
1971	.0078	.0155	.0572	.0805
1972	.0089	.0166	.0581	.0836
1973	.0088	.0166	.0594	.0848
1974	.0090	.0163	.0593	.0847
1975	.0091	.0177	.0618	.0886
1976	.0091	.0159	.0607	.0857
1977	.0092	.0166	.0611	.0869

Source: Statistical Abstract, 1978 (Division of Institutional Research)

STUDENT WORKLOAD

After enrollment probabilities are determined, one is in a position to project possible FTES targets, based on additional data of student workload trends. A recent report by the Chancellor's Office demonstrates the strong negative impact declining workload can have on the FTES total, even in the face of a still growing number of enrollments. The precise relationships between workload and student attrition are not clear; lighter loads may be a precursor of dropout potential (and hence produce a lower FTES in the short term), or it may be functional in the sense of permitting a student to stay in school at all (and thus a long-term addition to FTES). It is clear that as the student population in the CSUC becomes more non-traditional in character (as it must), lighter loads are probably inevitable. With shrinking replacement pools of 18-24 year olds, student retention probably offers the most promising and efficient means of stabilizing enrollments. The other alternatives are to encourage heavier workloads (which is not likely for demographic and cultural reasons), or devote more resources to student outreach in an effort to recruit more enrollments (i.e., increase participation rates) from certain age groups. The causes of and solutions for workload decline are far less certain than its effects and consequences. Tables 16, 17, and 18 present workload trends by campus, level, age, and sex; the downward patterns are uniform throughout all these dimensions.

All of the projections on population, participation rates, and student workload serve to point out the pivotal role which retention must play in enrollment planning for the future. Continuation and graduation rates in the CSUC can be improved with a proper understanding of the causes of attrition, alternative retention strategies, and integrated research and action programs. The following sections are intended to guide such efforts.

Table 16

AVERAGE NUMBER OF TERM UNITS ATTEMPTED BY UNDERGRADUATE STUDENTS, BY CAMPUS FALL 1970 TO 1978

Campus	Fall 1970	Fall 1971	Fall 1972	Fall 1973	Fall 1974	Fall 1975	Fall 1976	Fall 1977	Fall 1978	Change 1970 to 1978 Units	Change 1970 to 1978 Percent
Bakersfield	13.56	13.63	13.86	13.00	13.62	13.33	13.16	12.93	12.75	-0.81	- 6.0
Chico	15.14	14.76	14.99	14.65	14.37	14.24	14.20	14.11	14.10	-1.04	- 6.9
Dominguez Hills	13.65	12.56	12.85	12.70	12.68	12.41	12.12	11.88	11.76	-1.89	-13.8
Fresno	14.42	13.87	14.04	13.87	13.95	13.66	13.67	13.54	13.39	-1.03	- 7.1
Fullerton	12.81	12.24	11.94	11.80	11.82	11.64	11.72	11.51	11.50	-1.31	-10.2
Hayward	13.52	13.13	12.83	12.50	12.54	12.37	12.27	12.36	12.12	-1.40	-10.4
Humboldt	14.62	14.17	14.01	14.25	14.29	14.27	14.26	14.36	14.36	-0.26	- 1.8
Long Beach	12.71	12.18	11.94	11.79	11.61	11.57	11.60	11.62	11.60	-1.11	- 8.7
Los Angeles	12.21	11.43	11.17	10.87	10.81	10.88	10.89	10.82	10.83	-1.38	-11.3
Northridge	13.10	12.41	12.40	12.27	12.12	11.90	11.90	11.70	11.62	-1.48	-11.3
Pomona	14.33	14.06	13.86	13.63	13.43	13.18	13.21	13.06	12.94	-1.39	- 9.7
Sacramento	13.44	13.41	13.38	13.32	12.94	12.74	12.84	12.89	12.84	-0.60	- 4.5
San Bernardino	13.91	13.86	13.61	13.55	13.06	13.12	12.81	12.67	12.37	-1.54	-11.1
San Diego	13.31	12.86	12.49	12.47	12.43	12.64	12.65	12.38	12.18	-1.13	- 8.5
Calexico Center	12.12	12.07	12.88	11.55	10.93	11.43	11.08	10.73	10.62	-1.50	-12.4
San Francisco	13.08	12.34	12.54	12.51	12.34	12.03	12.01	11.96	11.96	-1.12	- 8.6
San Jose	13.09	12.57	12.28	12.29	12.27	12.06	11.93	11.96	11.99	-1.10	- 8.4
San Luis Obispo	15.35	15.13	15.08	14.90	14.75	14.80	14.64	14.42	14.31	-1.04	- 6.8
Sonoma	15.01	14.54	14.34	14.18	13.94	13.58	13.47	12.99	12.43	-2.58	-17.2
Stanislaus	14.51	14.27	13.73	12.08	11.94	11.62	11.36	11.04	11.35	-0.73*	- 6.0*
Totals	13.49	13.00	12.86	12.74	12.64	12.51	12.49	12.38	12.32	-1.17	- 8.7

*Change calculated since 1973, the year Stanislaus adopted a 4-1-4 modified semester schedule

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Table 17

Average Number of Units For Which Students Enroll By Class Level, Fall Term*

Year	Freshman	Sophomore	Junior	Senior	Graduate	Total
1965	13.8	13.5	12.6	12.0	6.4	11.4
1966	13.9	13.6	12.7	12.3	6.9	11.6
1967	13.8	13.6	12.7	12.6	7.2	11.7
1968	13.9	13.6	12.9	12.7	7.4	11.9
1969	14.2	13.9	13.2	13.0	7.8	12.1
1970	14.0	14.0	13.3	13.2	8.4	12.4
1971	13.7	13.6	12.7	12.7	8.1	11.9
1972	13.7	13.3	12.5	12.5	7.9	11.8
1973	13.7	13.2	12.3	12.4	8.0	11.7
1974	13.6	13.2	12.3	12.1	7.7	11.5
1975	13.4	13.0	12.2	12.0	7.6	11.4
1976	13.4	13.0	12.2	12.0	7.6	11.4
1977	13.2	13.0	12.1	11.8	7.6	11.3

Source: Statistical Abstract, 1978 (Division of Institutional Research)

Table 18

AVERAGE TERM UNITS ATTEMPTED BY SEX AND AGE GROUP UNDERGRADUATE STUDENTS, FALL 1973 TO FALL 1978

	Sex and Year	19 & Under	20 to 24	25 to 29	30 to 34	35 & Over	Total All Ages
Male	1973	14.20	13.15	12.03	10.53	9.69	12.69
	1974	14.18	13.13	11.72	10.14	9.47	12.57
	1975	14.05	13.12	11.51	10.32	9.85	12.48
	1976	13.71	13.21	11.43	10.07	9.03	12.47
	1977	13.84	13.01	11.24	9.91	9.00	12.36
	1978	13.79	12.93	11.15	9.85	8.80	12.32
Female	1973	14.26	13.21	10.62	10.35	9.78	12.80
	1974	14.18	13.18	10.59	10.23	9.67	12.73
	1975	14.03	13.08	10.48	10.04	9.55	12.56
	1976	13.60	13.22	10.54	10.03	9.48	12.52
	1977	13.82	13.01	10.48	9.95	9.49	12.40
	1978	13.75	12.88	10.52	9.85	9.43	12.31
Total (M & F)	1973	14.24	13.18	11.70	10.47	9.73	12.74
	1974	14.18	13.15	11.41	10.17	9.58	12.64
	1975	14.04	13.10	11.20	10.22	9.70	12.51
	1976	13.65	13.22	11.13	10.09	9.28	12.49
	1977	13.83	13.01	10.96	9.93	9.29	12.38
	1978	13.77	12.91	10.90	9.85	9.19	12.32

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THE CAUSES OF ATTRITION

In reviewing the multitude of causes that have been cited as possible influences on attrition, the following questions should be considered:

1. Does a relationship exist, is it statistically significant, and how strong is it?
2. Have proper controls been introduced, and have the findings been confirmed across time and space?
3. Is enough known to draw any definitive conclusions which might be useful for policy level decision-making?

Perhaps the most comprehensive model of student attrition was provided in a recent literature summary by Tinto (Figure E). A less abstract (and less useful) model is shown in Figure F. Essentially, Tinto suggests that voluntary withdrawal from college is functionally related to the interacting influences of integration in both the social and academic systems of an institution. He asserts:

> Given prior levels of goal and institutional commitment, it is the person's normative and structural integration into the academic and social systems that lead to new levels of commitment. Other things being equal, the higher the degree of integration of the individual into the college systems, the greater will be his commitment to the specific institution and to the goal of college completion (Tinto, p. 96).

Like many other models of retention, Tinto argues that a proper "fit" between the individual and the educational system is critical. Numerous studies have offered empirical support for the basic tenets of the model and, in addition, have established informal faculty-student interaction as a powerful determinant of both modes of integration. It suggests that continuance is a product of both academic and social integration between the individual and the institution. These modes of integration produce, in turn, a psychological commitment to higher education and an institutional commitment to a given campus. This model has the advantage of directing attrition to the causal processes that lead to attrition rather than merely its correlates.

FIGURE E
A CONCEPTUAL SCHEMA FOR DROPOUT FROM COLLEGE

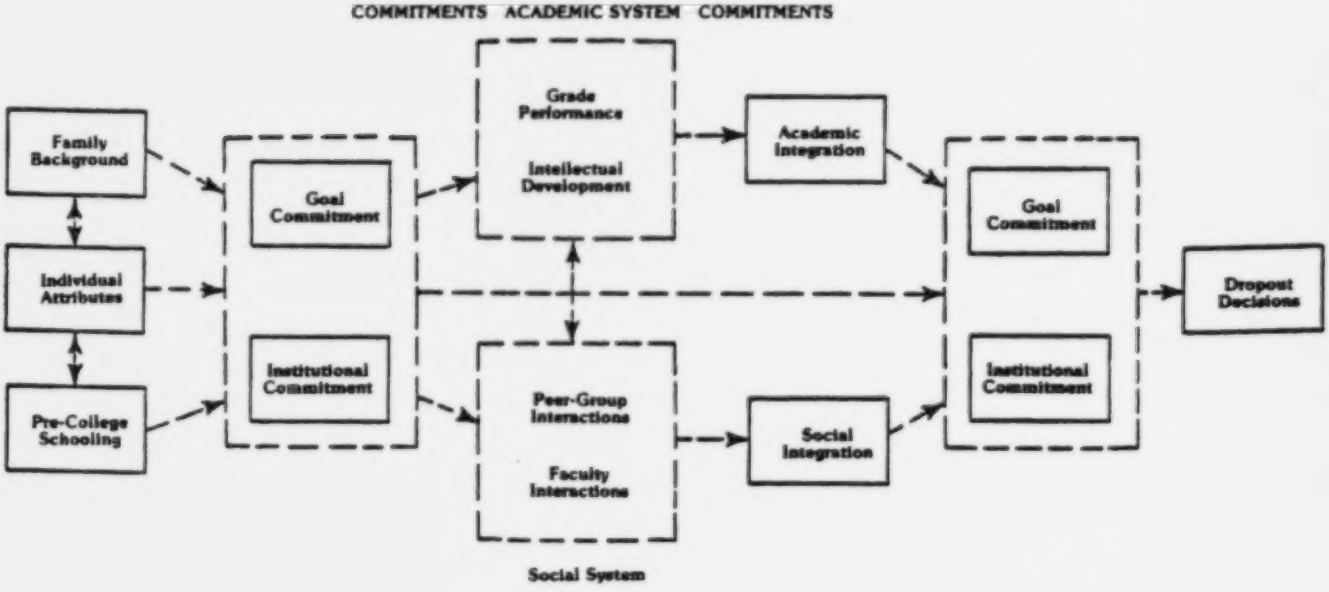
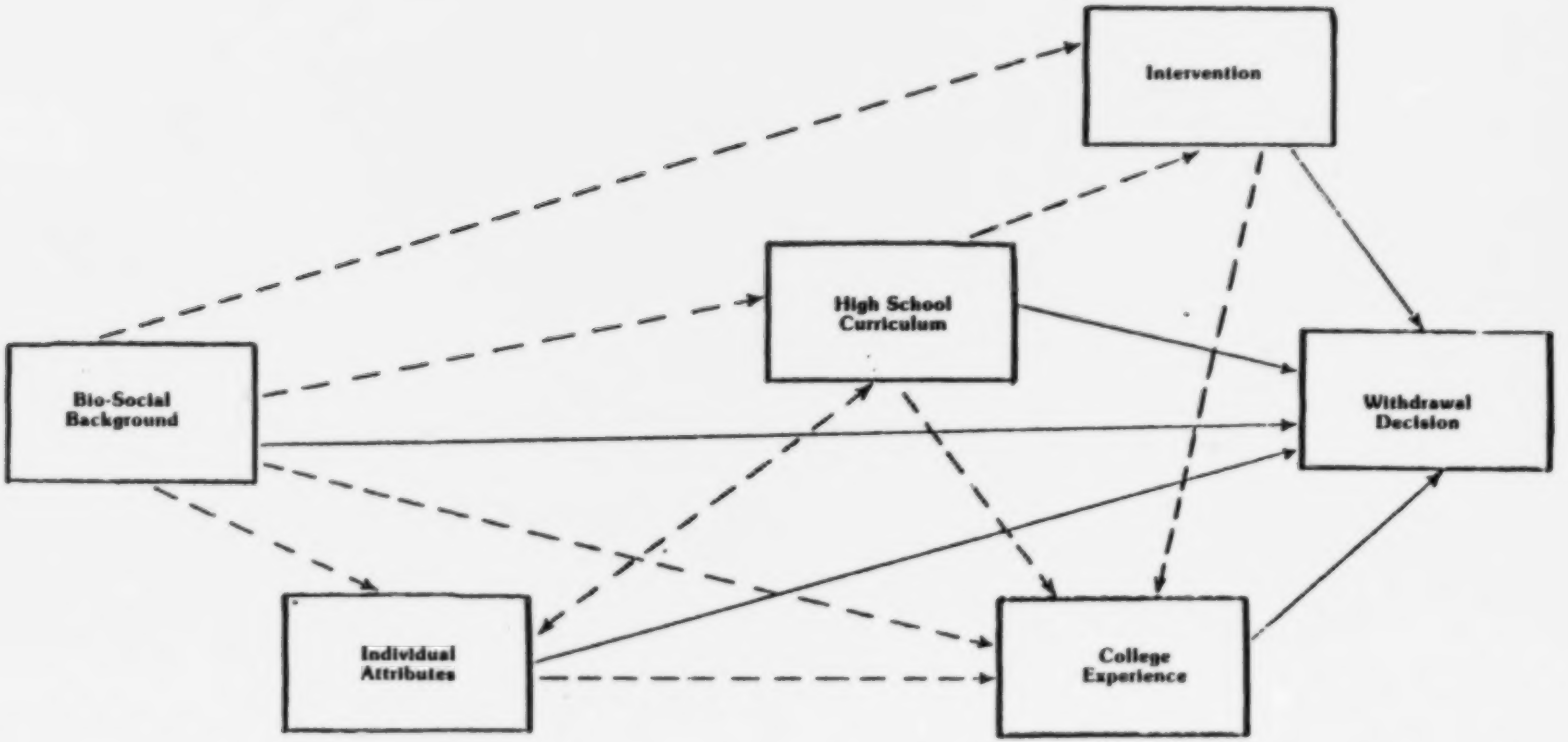


FIGURE F
CONCEPTUALIZATION OF THE WITHDRAWAL PROCESS.



Note: Direct relationships with withdrawal are indicated by solid lines, and indirect relationships by broken lines. Arrows indicate hypothesized directions of influence.

Source: NCES National Longitudinal Study

SELF REPORTS

Students' self-reported reasons for withdrawal are notoriously suspect. A number of studies have shown that students tend to explain their withdrawal in terms of socially acceptable reasons (e.g., financial problems), and to deny academic difficulties, lack of motivation, and indecision. For this and other (methodological) reasons, exit interviews are seldom very enlightening. Survey data on attrition may be useful for some purposes, but only if cautiously interpreted and supplemented with additional, objective indicators.

When student surveys concerning their leaving college turn up a host of non-academic reasons, such as financial problems, illness, family emergencies, marriage plans, etc., the tendency among researchers is to discount such factors as simply rationalizations for unsuccessful behavior. And, indeed, GPA scores of withdrawing students tend to be lower than those of persisters. Yet, the issue is probably more complex. No doubt personal concerns of family, health, and finances bear some relationship to academic performance. In an adult, part-time, and commuter-oriented environment (such as exists on most campuses in the system), the question of causality is a legitimate one from the student's perspective. Does a student drop out because of poor grades, or because of family problems which happen to be causing poor grades? The researcher rarely is able to verify independently all of the links in the causal chain. On the other hand, institutional failure (such as poor class scheduling) may be perceived and reported by the student as a personal problem (lack of time).

In addition to family, work, finances, and circumstances, withdrawing students also admit to making poor choices in the first place; complain frequently of institutional size, scale, and bureaucracy; confess to some social and psychological concerns of identity and self-expression; and often cite reasons of poor teaching

Table 19

Reason Given for Dropping Out by Sex: Two National Studies

Rank of Order Mention	Men		Women	
	Iffert (1957)	Panos-Astin (1967)	Iffert (1957)	Panos-Astin (1967)
1	lack of interest in studies	dissatisfied with college environment	marriage	marriage
2	military enlistment goals, interests	need time to reconsider environment	took full-time job	dissatisfied with college
3	financial (self)	financial (self)	financial career plans	changed
4	low grades career plans in studies	changed interest	lack of	financial
5	financial (family) goals, interests	low grades (family)	financial reconsider	need time to
6	studies too difficult	marriage	low grades	pregnancy
7	military (drafted)	scholarship terminated	studies too difficult	tired of being a student

Source: NCES National Longitudinal Study

quality and course boredom. However, there remains no reliable means of sorting out rationalizations from the "real" causes, or of discerning where a given variable is located in a broader causal chain. Moreover, students usually give more than one reason for leaving, and it is impossible to attach quantitative weights to each with any degree of precision. Table 19 presents a useful rank-ordered summary of two national studies that confirmed the existence of sexual differences in the reasons typically given for dropping out.

Table 20

Reasons Freshman Transfers Gave for Changing Schools

	Reasons	Transfer Categories (percent) 4 • 2	4 • 4	2 • 4	2 • 2
A.	Interest changed; former school did not offer the course I wanted	26.09	35.29	45.57	39.68
B.	To attend less expensive school	45.06	28.81	5.06	18.60
C.	Grades too low to continue	23.83	2.18	0.00	1.56
D.	To be at a smaller school	23.50	15.67	5.91	4.69
E.	To be at a larger school	6.77	23.02	44.54	6.30
F.	To attend school closer to home	38.34	33.39	8.86	37.21
G.	To attend school farther from home	4.78	15.34	33.61	17.33
H.	To attend a school that would give one better career opportunities	28.35	51.16	75.32	50.00
I.	To attend school where I felt more like I belonged	34.64	31.57	30.20	28.35
J.	To attend school where I could maximize my intellectual and personal development	25.90	48.82	60.58	28.13
K.	More group or social activities of interest	14.56	41.51	42.53	17.33
	Sample Size	179	478	177	110

NOTE 1. Freshman Transfers were students who moved between colleges during or at the end of their first year in college.

2. The percentages in each column add to more than 100 percent because transfers were allowed to check more than one reason for transferring.

Source: NCES National Longitudinal Study

Some students leave college permanently when they withdraw (dropout); others return at a later date (stopout); still others merely transfer from one school to another. The NCES national longitudinal study of high school seniors found significant differences among transfer groups in their expressed reasons for transferring. For example, while financial concern (to attend a less expensive school) was indicated as a reason by about 45 percent of freshmen transferring from four-year to two-year institutions, it was reported by only about 5 percent of the 2 – ► 4 transfers. The major reasons for four categories of freshmen transfers are shown in Table 20.

It is instructive to note that two-year colleges are not necessarily viewed by the transferring students merely as havens for GPA recuperation - finances, convenience, and "belonging" were rated higher than academic reasons. In this sense, transfers are not unlike dropouts. On the other hand, 2 – ► 4 transfers cite career, intellectual, and academic considerations as their primary motivations. Four-year institutions ultimately reap the benefits of attracting students with sufficient academic motivation and interest; the price may be a certain level of attrition (stopping out) among vertically (4 – ► 2) transferring students.

Horizontal transfers (e.g., 4 – ► 4) appear to be motivated by concerns for career opportunities and intellectual and personal development. In this category are large numbers of students whose interests and needs may not have been well-matched with their original college choices; they are seeking a better "fit" between themselves and the academic or social environment. Transfer attrition of a horizontal nature in the CSUC probably represents the clearest instance of institutional dissatisfaction for leaving. None of the campuses in the system are currently in a position to determine empirically whether the original fit was bad, or whether the student's interests and needs changed. Collection of survey data on incoming freshmen is one obvious and important means of dealing with such questions.

DEMOGRAPHIC INDICATORS

Clearly, the cheapest and most straightforward approach to studying attrition and retention is through demographic analysis of prematriculation characteristics. However, a recent and careful study found that a considerable variety of pre-college traits (sex, academic aptitude, personality dispositions, high-school achievement, and other background variables often associated with dropping out) explained less than 4 percent of the total variation in attrition status - a statistically insignificant amount (Terenzini and Pascarella, 1978). The authors conclude that there appears to be little future in trying to predict attrition solely on the basis of such variables, and that efforts to reduce current attrition levels are more likely to succeed if they are focused on what happens to students after their arrival on campus, rather than on what they are like at the time of admission. Still, data on the characteristics of an entering class are useful for developing some baseline estimates about the chances of persistence and degree completion.

For example, of the 110 variables on student characteristics employed by Astin, fifty-two contributed significantly to the prediction of leaving college (either stopout or dropout). Regression analysis produced the following rank order of predictor categories: academic background and ability (high school grades and rank, college admissions test scores); family background (sex, race, hometown, religion); educational aspirations; study habits; college expectations; and some miscellaneous items such as age and marital status. He concluded that the most "dropout prone" freshmen were "those with poor academic records in high school, low aspirations, poor study habits, relatively uneducated parents, and small town backgrounds." Using such data, it is possible to calculate the probabilities of stopping out or dropping out for each entering student, and these scores could provide the basis of an early warning tracking system for the institution. The worksheets and specific calculations for this approach are presented in Appendix BB.

Age

There is little convincing national evidence that age per se is a significant cause of persistence or withdrawal. Of course, age is associated with a number of other important life activities which may have a more direct bearing on attrition. Accordingly, it is probably true that older students encounter more obstacles to graduation than younger ones which may help explain the higher retention rates at residential campuses (where the student population is younger).

Sex

The evidence on sexual variations in student attrition has been contradictory at best. Pantages and Creedan offer the following summary:

> . . . there is strong evidence that sex is not a significant variable in determining persistence or attrition, but it becomes more significant as scholastic, environmental, institutional, and longitudinal factors are taken into consideration.

To the extent that any consistent theme can be teased out of the available research data, there may be a slight tendency for women to show greater persistence, or become a voluntary dropout. It is probably accurate to state that while attrition rates between the sexes are trivial, the reasons men and women give for leaving col-

lege are more important. Scores of studies indicate that men tend to cite internal and academic reasons while women more frequently mention external and nonacademic ones.

Socio-economic Status

Family socio-economic status (family income, parental education, father's occupation) is often intuitively linked to student attrition. Again, scores of studies demonstrate that SES variables are of limited value in predicting attrition, although statistically significant relationships do exist between lower SES families and college withdrawal.

Ethnicity

The role of ethnicity in predicting attrition seems to depend heavily on the number and quality of controls which are introduced, and in the CSUC, the quality of the ethnic data itself. Systemwide policy dictates that ethnic data collection procedures be left to the discretion of each campus, and that student responses be voluntary and disassociated from the admission process. As a result, the accuracy and completeness of such data are heavily suspect at most campuses. At any rate, dropout rates among whites, blacks, Hispanics, Orientals, and American Indians are roughly similar when controlling for SES. Even when differences do emerge, they often are not statistically significant, or reflect weak or trivial relationships.

Residence

Several studies indicate no significant correlation between the nature or location of a student's hometown and attrition rates. However, distance from campus may be more important if measured in terms of place of residence rather than hometown. The relevance of distance for commuting students exists along two dimensions – spatial (how far he must travel) and psychological (whether he feels part of the campus community). In terms of spatial distance, studies often treat off-campus, commuting students in an undifferentiated fashion rather than examining the psychological differences between students who live on the periphery of the campus and those who travel a great distance. On campuses with relatively large clusters of student housing close to campus (e.g., Fresno, San Diego, and San Francisco), the psychological costs of being a commuter may be considerably diminished.

High School

Another body of negative research findings concerns the size and type of high school attended. Whether large or small, urban or rural, public or private, college persistence seems to be affected only slightly. Moreover, the small effect which such a variable might have is usually a reflection of more diffuse causal agents such as the educational and cultural characteristics of a given community.

Employment

The nature and extent of employment is usually assumed to have major implications for a student's level of academic performance and chances of earning a degree. Well over half of the students on most CSUC campuses hold a full-time or part-time job; the decline in student workload is often linked to student needs or desires to work while attending school. Again, Astin's national data are instructive and are worth citing at length:

1. Having a job usually increases the student's chances of finishing college. If employment is less than full-time (under twenty-five hours a week), the absolute benefits can be substantial: from 10 to 15 percent decrease in dropout probabilities. These positive effects of employment are even more pronounced among black students.
2. In general, full-time employment is to be avoided. For most students who work full time, the positive effects of employment on persistence are not only lost but actually reversed. The only situation in which students appear able to tolerate full-time employment occurs when men hold jobs on campus. This exception may be in part a consequence of the types of full-time jobs normally held by men on college campuses.

3. On-campus work is generally preferable to off-campus employment. However, if a student holds an off-campus job during the freshman year, the effects are generally positive. Shifting from an on-campus job or no employment to an off-campus job, however, is associated with a substantial increase in dropout probabilities.
4. The negative effects of full-time employment are especially pronounced when the student works off campus.
5. The degree of relevance of the job to the student's long-term career interests is negatively associated with persistence if the student works off campus. That is, students with off-campus jobs are more likely to drop out the more their work is related to career goals.
6. The degree of job satisfaction has little effect on persistence.
7. Entering college students who are married have less chance of finishing college if they also work during the freshman year. Employment as a freshman has a positive effect, however, if the student marries after entering college.
8. The effects of college employment are most beneficial among students who receive no grant or loan support or only minor support from these two sources of financial aid. For students with substantial financial need, packaging work programs with scholarship and loan support should be done with care. Clearly, more research into the effects of various packages is needed.

Miscellaneous

Many other variables of a personal nature could be offered as possible indicators of attrition - health, marital status, financial condition, religion and so forth. None would add significantly to either the prediction or prevention of dropout behavior.

ACADEMIC INDICATORS

One of the most active areas of recent research on attrition has centered on the relative importance of ability and performance characteristics versus non-intellective variables. If one is interested only in involuntary attrition (in the form of academic dismissal), there is little doubt that such things as high school grades are valid and accurate predictors of college persistence and success (i.e., earning a degree). It is equally clear that in a system or institution committed to open admissions, social equality, and access that the practical effect is to accept the consequences of such a policy in terms of high attrition rates.

Several studies have confirmed that high school rank, GPA, and academic performance generally are an accurate predictor of college academic success. However, these variables are of more limited scope and power for predicting college persistence. Obviously, many students voluntarily withdraw for reasons unrelated to academic performance. Measures of scholastic aptitude and ability seldom account for more than 25% of the variance in student performance in college, and they account for even less in decisions of students to leave school. Still, academic variables of this nature are among the strongest predictors of college persistence and attrition.

A focus on test scores, grades, study habits, and the like probably distort the nature of student attrition. They imply that academic performance is a function of student interest and ability rather than faculty teaching skills and the quality of advisement. As such, data on academic variables actually communicate as much about the institution as the student.

MOTIVATIONAL INDICATORS

Thus far, it has been suggested that demographic variables tend to have only minor causal significance in college attrition, and that academic variables are better predictors of college achievement than persistence per se. A third category of determinants includes social and psychological variables of a motivational nature. These tend to be the prime factors cited by dropouts themselves, but they also tend to pose the most serious methodological problems.

Some studies have found significant correlations between personality traits and college persistence. Generally, the dropout is portrayed as a less settled personality, a restless, unpredictable spirit who acts on emotion rather than reason, unsure of self and environment, uncertain, withdrawn, and confused. All of the standard characteristics of the maladjusted personality have been applied to those who leave the institution -intolerant, non-conformist, hostile, aggressive, impulsive, anxious, irresponsible, illogical, unreflective, and so forth.

Theoretically, it is possible to argue that dropouts, transfers, and persisters should exhibit different personality profiles upon entering college, and provided with the appropriate psychological data upon entry, high-risk students might be more closely monitored. However, there is at least one important problem with such reasoning; namely, correlations between personality traits and student persistence traditionally are so low that the investment in data collection and analysis is hardly worth the cost and effort. Moreover, such data seldom provide unambiguous guidelines for academic, career, or personal counseling. Standard academic data (GPA, test scores, etc.), on the other hand, are far cheaper to obtain and provide equally valid measures of dropout risk.

A more promising avenue for motivational research would center on parental and peer influences, vocational goals, academic interests, and institutional expectations. One of the most consistent findings on student attrition involves self-direction, goals, commitment. Withdrawal from college is often an expression of goal ambiguity generally; the student therefore is unable to invest much commitment to the university or a curriculum of study. Through encouraging (though not requiring) early, tentative choices of an academic and career nature, the advisement system can contribute to a conscious linkage of self-identities and educational experiences. Accordingly, the individual learns to accommodate and use the educational environment in such a manner as to fit his needs for self-expression, identity, social integration, and career goals. High-risk students are usually unclear about their future, and require special treatment and, parenthetically, additional resources.

In short, academic ability and SES are objective correlates of attrition, and relatively easy to measure; predictably, they are among the most tested and strongest indicators of college persistence.Several motivational factors of a cognitive and social nature possess a certain conceptual and intuitive appeal, yet are much more difficult to gauge empirically. Chief among these is "personal commitment" to either an academic or occupational goal. Major differences in the persistence rates of vocationally decided and undecided freshmen are sometimes cited as sufficient reason to require (or at least strongly encourage) early declaration of a major field of study. Among the CSUC officials interviewed, there was an almost universal sense that the more vocationally oriented disciplines had fewer attrition problems. Most also felt than an undeclared status contributed disproportionately to attrition, although some empirical data (e.g., Astin) contradict this rather common assumption. At any rate, there seems to be little doubt that more research should be invested in these more diffuse though promising variables than in the less costly but less enlightening indicators of an objective nature. The "easy" variables have been studied extensively and have explained relatively little about attrition. The relative gain from focusing on more expensive explanations related to personal involvement, motivation, and commitment can be assessed only through resort to more ambitious conceptual models and research strategies.

INSTITUTIONAL INDICATORS

The category of institutional or environmental characteristics includes many variables of potential interest to policy planners in higher education: size, selectivity, student tuition, financial aid, housing, advising, extra curricular activities, campus culture, among others. These considerations are of critical importance for both

practical and theoretical reasons. First, they represent the only variables in student attrition over which the institution has direct control. Second, the notion of matching student needs, abilities, and expectations with the social and academic environment of the college is consistent with the most recent and persuasive models of student retention. Such an environmental paradigm is usually based on a goodness of fit perspective, congruence of role expectations and demands, functional interaction between the student and institution, and social and academic integration.

In general, the research literature suggests that college persistence is positively related to attending a four-year as opposed to a two-year institution, a private versus a public school, a campus of moderate or larger size, and one with more selective admissions policies. Moreover, residential housing and extracurricular activities produce lower attrition rates. There is little compelling evidence on either the positive or negative effects of advising programs, but both students and administrators seem to feel that such activities are important. The data on tuition and student costs turn up very few direct correlations with attrition, with the introduction of proper institutional controls.

Size

Popular mythology in American culture teaches one to appreciate the virtues of localism, decentralization, and grassroots participation. This venerable "cult of the small" has often been transported to the campus with the assumption that institutional growth, bureaucracy,and impersonal relationships would produce higher attrition rates. Often overlooked are the economics of scale and the benefits that accrue to the student as a result in the form of higher quality programs and faculty; library, computer, and laboratory facilities; greater curricular diversity; extracurricular activities, and so forth. Size per se matters little in whether a student persists. Some of the correlates of size do matter, and the incentives to persist seem to lie with the larger institutions. Within the CSUC, there is no evidence that size of the institution is systematically related to continuation rates.

Selectivity

Admissions selectivity is often considered to be one of the most obvious correlates of student persistence. The data in Table 21 indicate the positive relationship between institutional selectivity and student retention at a college. In addition, the admissions criteria of the entering college offer insights for predicting the long-term educational achievements of students, including those who transfer or stop out. On the other hand, when appropriate demographic and institutional controls are introduced, much of the zero-order correlation tends to be removed.

Table 21

Estimated Retention Rates According to Institutional Selectivity[a]

Type of Institution	Percentage Graduating In Four Years at Initial Institution	Percentage Graduating Within Ten Years at Some Institution
Most selective private colleges and universities	80-90	90-95
Large state universities	30-45	50-70
Regional state universities	15-25	30-45
Public community colleges	15-25[b]	10-15[c]

[a]Rates are estimated from data in the follow-up studies by Astin (1972, 1975), and others (1973), and Newman (1971).

[b]Graduation from a two-year program in two years.

[c]Graduation from a four-year institution after transfer.

Source: Noel, *Reducing the Dropout Rate*

Title V stipulates that all lower division students (transfer and first-time freshmen) entering campuses of the CSUC be subject to the same entrance requirements. Identical campus requirements also apply to upper division transfer students. A campus can set different admissions standards only for out-of-state students and a standardized set of categories governing exceptional admittants (percentage quotas are associated with each category). Admissions standards higher than systemwide norms may be established by individual campuses for selected impacted areas.

The general consequence of systemwide admissions policies is to insure a minimal level of academic qualifications for entrance to any campus. Beyond these minimum standards, there may be a wide range in aggregate levels of student ability. Systemwide admissions standards are shown in Appendix B.

Extracurricular Activities

A variable closely related to student-institution fit is campus involvement, especially participation in extracurricular activities. Although there is probably more rhetoric than research on this question (e.g., the debate over whether such activities detract from academic pursuits), as well as inherent methodological difficulties (the longer one stays in college, the greater the probability of some participation), most studies do offer modest confirmation of the involvement hypothesis.

Tuition and Costs

The debate over the relationship between tuition and costs on the one hand, and student persistence on the other, likewise suffers from a profusion of untested assumptions. Some argue that the lower the financial burden, the greater the chances of completing college; others suggest that financial commitment and sacrifice breed motivation to stay in school. Both positions seem plausible enough, although available data fail to lend consistent and convincing support to either.

Financial Aid

Financial aid for students is among the most politically charged issues in student retention. The amount of money, recipient qualifications, program administration, and a host of other questions complicate understanding of the ultimate purposes and effects of aid programs. Astin's data suggest that financial aid can make a difference, especially if presented in a program package of combined loan support and work-study.

Housing

It is increasingly recognized that the commuter student represents the newest and most prevalent disadvantaged group in higher education. In the most authoritative study on the subject, Chickering writes:

> Commuters and residents begin their college careers with an unequal start which strongly favors the residents. The gap between them grows. Residents have access to, find, and are forced to encounter diverse experiences and persons who spur them on their way. Access, discovery, and encounter occur much less for commuters and they continue in circumstances that add weights to their pre-existing handicaps. Thus the major consequence of American higher education as it currently functions for commuters and residents is to increase the distance between them.

Actually, the issue is somewhat more complex than merely one of commuters versus residents. Within the commuter group, there are subtle but important differences between those who live with their parents and those who do not, and between commuters and those who are more properly classified simply as "off-campus" students. Thus, at least four distinctive groupings appear, yet all evidence on student development favors those living in campus facilities.

The problems of commuter students are legion. They usually are employed in addition to attending college, and the typical commuter college (whether urban or rural) affords few opportunities for escape from home responsibilities or development of new social friendships. Given a practical commitment to careers, the commuter learning experience tends to be practical and relatively fragmented. The chances for genuine social, psychological, and intellectual development as a result of college are considerably more limited.

The commuter student is said to possess unique needs and to pose special educational problems for an institution. His relationship to the institution is essentially a functional one of time, cost, and convenience. His encounters with and interest in the campus are limited and short term. Predictably, both national and system-wide data confirm that campuses with significant residential populations show higher levels of student persistence than those which are predominantly commuter in character. However, it seems to matter little whether the commuter college is urban or rural.

SUMMARY

Most intuitive assumptions about the correlates of attrition and retention are accurate for predicting the general direction of hypothesized relationships but not their strengths; the problem is that the effect of each independent variable contributes little to an understanding of the total problem or its solution. Accordingly, academic ability, career goals and educational motivation, residential living, social participation, and environmental "fit" each bear positive relationships to college persistence, but not much.

Statistical significance is not always equivalent to substantive significance. Given the large sample sizes which characterize most attrition studies, statistical significance can be legitimately attributed to almost any set of observed, systematic differences. Yet, even the most carefully conducted multivariate studies show that the multiple correlations of scores of significant variables rarely produce very high (and hence, substantively meaningful) levels of explained variance. The elusive search for substantively significant relationships in student attrition will no doubt continue in the CSUC as elsewhere. The important thing that policymakers must realize is that decisions must be rendered and retention strategies developed long before any truly convincing evidence is available on the causes of attrition. Some will continue to argue for the statistical primary of certain variables over others, but the fact remains that almost any combination of predictors one chooses is unlikely to offer findings with policy-level significance.

Despite the apparent utility of Tinto's model, it should be noted that the total amount of explained variance due to variables of a demographic, academic, and social nature seldom exceeds 25-30%. Independently, measures within each of these three sets are able to explain only 3-6% (Terenzini and Pascarella, 1978). After hundreds of studies over several decades, the data offer few dramatic conclusions on which to base policy decisions and commit resources. The reasons for leaving college are as numerous and varied as one can imagine, and nowhere is there convincing evidence that any one variable (or combination of variables) adequately "explains" the phenomenon. Predictably, proposals and schemes for dealing with the problem reflect similar levels of uncertainty and poorly documented effectiveness.

A three-year national longitudinal study involving more than 20,000 students was forced to conclude that:

> . . . the total variance of withdrawal behavior (i.e., R^2) that can be accounted for by a set of the 11 most important variables is about 13 percent . . . this means that about 87 percent of the withdrawal behavior is related to other unknown variables. (National Center for Education Statistics, p. 94.)

A summary of these data is shown in Tables 23 and 24.

Fortunately, there is at least one hopeful sign in this body of negative findings. The NCES national study did not reveal many significant interaction effects of classification variables on withdrawal behavior. In general, college withdrawal seems to be a simple function of the main effects of multiple variables; that is, leaving college can be viewed as a result of the cumulative effects of many individual variables rather than as a complex interactive pattern among them. This finding has important conceptual as well as methodological implications. It means that models of attrition must continue to be broad in scope, but can be simple in design.

CSUC OVERVIEW

The reasons for leaving a campus are closely related to the reasons for attending in the first place – namely, perceived reality is not congruent with prior expectations. The only means of learning about students' expectations and perceptions is through surveys. Fortunately, both the systemwide office and the individual campuses routinely collect survey data on a wide range of issues.

Based largely on student survey data, studies conducted within the CSUC are, for the most part, broadly consistent with these general findings. There is no evidence to suggest that the 19-campus system as a whole is somehow so unique and different that it must be treated as a special and deviant case on this subject. Moreover, despite the diversity of institutions in the system (in terms of size, region, student characteristics,

discipline emphases), few distinctive patterns are apparent relating type of campus to attrition variables. Students appear to leave small, rural campuses for much the same reasons they leave large, urban ones. Withdrawal reasons (as opposed to rates) seem to vary little among campuses that are predominately professional versus liberal arts, homogeneous versus heterogeneous, north versus south. The two factors that seem to distinguish campuses within the system are institutional size and residential status. Great differences in human and physical scale do evoke different responses from students who leave. Complaints of "scale" are common at San Diego, Long Beach, and San Francisco, whereas social and psychological isolation is more likely to be cited as reasons for leaving at Stanislaus, Humboldt, or Sonoma. Similarly, a commuter campus tends to serve an older, part-time, and less committed student than the few residential campuses in the system (Chico, Humboldt, San Luis Obispo). His time and attention are divided (psychologically and physically) among school, home, and work responsibilities, and there is little doubt about which will be sacrificed if problems arise. The residential student enjoys a more integrated social and academic experience, and his reasons for leaving tend to be concentrated on a more narrow and more personal base of concerns (although this seems to be less true at Humboldt where housing, jobs, and social isolation are persistent problems).

Overall, differences among the campuses are probably reflected more through admissions channels than the withdrawal process. A campus tends to selectively recruit a certain type of student. Once on campus, he is likely to face much the same set of problems common to students elsewhere, and his reasons for leaving tend to be roughly similar.

It should be remembered that the CSUC system possesses almost all of the characteristics typically associated with student transfer, stopout, and dropout. Its student population is overwhelmingly nontraditional in the sense of being somewhat older than on most four-year campuses. The CSUC student usually attends school part time, and works part time. He usually commutes to campus, and often is a product of the

Table 23
Correlations Between Predictors and Criterion Variables (4-Year College Students)

Predictor	Criterion Variable: Academic Withdrawal vs. Persister + Transfer	Nonacademic Withdrawal vs. Persister + Transfer	Total Withdrawal vs. Persister + Transfer	Withdrawal + Transfer vs. Persister
1. SES	−.09**	−.13**	−.14**	−.14**
2. Female (vs. Male)	−.05**	.04	.01	.01
3. White (vs. Nonwhite)	−.02	−.01	−.02	−.03
4. High School Grade	−.22**	−.15**	−.21**	−.22**
5. Ability Test Score	−.13**	−.19**	−.20**	−.21**
6. Educational Aspiration	−.18**	−.26**	−.27**	−.27**
7. Academic High School Program (vs. General & Voc-Tech Program)	−.11**	−.16**	−.17**	−.16**
8. Faculty Quality	.13**	.11**	.14**	.15**
9. Social Life	.04	.02	.03	.02
10. Intellectual Integration	.16**	.04	.10**	.11**
11. Receipt of Financial Aid	−.03	−.07**	−.07**	−.08**
Multiple R	.31	.33	.37	.37
d.f.	(11, 3347)	(11, 3868)	(11, 4063)	(11, 4063)
F	32.93**	42.49**	57.09**	58.01**

**Significant at the .01 level (a two-tailed test for r's)

Source: NCES National Longitudinal Study

community college system which is always "available" if the four-year institution presents too many problems, either social or academic. He usually lives in an area of close proximity to several other CSUC campuses, not to mention campuses of the University of California or of private institutions. He is the product of a social system (both national and regional) which emphasizes mobility and weak social ties, and a cultural system of change and transient values. In short, there is little reason to expect retention rates in the CSUC to ever be above average. Given the nature of the student population it is committed to serving, and the reinforcing trends of a demographic and social nature, the most likely outcome is for attrition to continue to be a long-term problem for most campuses in the system. Almost by definition, attrition may be less a matter of student or institutional failure when the system itself could be characterized as "high risk" in nature.

Table 24

Additional Percentage of Variance in Withdrawal Behavior Accounted for by Cluster of Predictors (4-Year College Students)

	Predictor	Withdrawal Behavior			
		Total Academic	Nonacademic	Withdrawal	Nonpersister
1.	SES, Sex, Race	1.20%**	1.79%	2.11%**	1.94%**
2.	High School Grade, Test Score	4.35%**	3.66%**	5.21%**	5.54%**
3.	Educational Aspiration	1.73%**	4.01%**	3.96%**	3.90%**
4.	High School Program	.26%**	.37%**	.46%**	.33%**
5	College Experience	2.22%**	.71%**	1.50%**	1.64%**
6.	Financial Aid	.01%	.24%**	.15%**	.22%**
	Total ($R^2 \times 100$)	9.77%**	10.78%**	13.39%**	13.57%**

Note: The contribution of predictors was done in a sequential order; that is, the variance accounted for by financial aid, for example, was computed after the preceding five sets of variables were considered.

**Significant at the .01 level.

Source: NCES National Longitudinal Study

RETENTION STRATEGIES

This section offers a brief overview of some popular approaches to reducing student attrition. The concern here is merely with what could be done to reduce attrition, not necessarily with what is being done in the CSUC or elsewhere, or what seems to be effective. Therefore, a discussion of what should be done to reduce dropout rates is covered in a later section.

Much as consideration of the terms dropout, attrition, persistence, stopout, etc. pose serious conceptual problems, the notion of just what constitutes a "retention effort" is similarly ambiguous. Retention programs supposedly range from orientation weeks to a friendly smile during registration, from resolving sexual identity crisis to permitting beer on campus. Anything that a University does that is favorably evaluated by a student contributes to retention. It may be something as mundane as keeping the grass mowed and the parking lot clean or as academic as a learning resource center. Anything that "helps" a student resolve personal problems, pass a course, or develop his intellectual, social, and physical talents is a retention effort. Some things that a University does to attract and keep students are largely unconscious and unplanned; other activities are fully institutionalized in the sense of requiring long-term commitments of time and human and financial resources. Thus, one could reasonably argue that not only are all of the traditional student services activities retention-oriented, but that all offices and functions in the University which affect the student (either directly or indirectly) are as well. Despite the relatively narrow attention devoted to academic and social concerns in retention, there are also more diffuse environmental and administrative dimensions of the college which involve all segments of the University community in promoting retention.

Likewise, it is not always clear when a university activity becomes a retention strategy, or a strategy becomes a program, or a program becomes an office. Some retention efforts are routine, such as advising; others are clearly exceptional in their goals, audience, and methods, such as EOP programs. A University must decide not only on what constitutes a retention activity, but to what lengths it is willing and able to support it.

This raises what is perhaps the most important point to be made about almost all forms of student retention programs. To put it bluntly, they all tend to demonstrate high levels of concern for the student, but also tend to have comparably low levels of concern for proving their effectiveness. Like all "helping" professions, student services personnel are far more interested in people and problems than in theories and data. Similarly, faculty and staff involved in some kind of retention activity are typically far too busy delivering the service to collect data and fill out forms. The bottom line is that "what works in retention" is an unknown quantity[1]. Scores of retention programs exist on almost every campus in the nation, and there are literally hundreds of additional (quite interesting) ideas floating around. There is no problem in deciding what "can" be done about attrition; there are nothing but problems if one is interested in sorting out the costs and benefits of each set of alternatives.

Of course, some might argue that a retention effort should not be measured and evaluated in purely quantitative terms of pretest and posttest scores, experimental and control groups, continuation rates, and the like. A humanistic response might inquire more deeply into the meaning of student development and its ultimate worth to the individual and society. How much is it worth to help just one student earn a degree, become socially accepted, resolve an emotional problem, or cultivate his aesthetic sense? These are important issues, but in an environment of scarce resources, the University requires some more precise measures of who is doing a good job and who is not.

Here is one checklist of items that are common to most of the recommendations posed by retention committees in the CSUC and elsewhere. Although it is by no means exhaustive, this inventory is a fairly representative summary of practical steps to reduce attrition. Strategies based on unlimited resources or lyrical rhetoric have been omitted.

Research

1. Analyze the important relationships between demographic and population shifts (especially age) in the University's service area, headcount trends, student workload, and FTES. Based on these factors, develop a long-range enrollment planning model with retention at its core.

2. Conduct surveys of non-continuing students and in-depth interviews with withdrawing students to gain a better understanding of institutional deficiencies.

3. Develop a data base of student variables to use as an early warning system of dropout probability.

4. Recognize the competitive nature of the new environment for higher education and implement systematic marketing research strategies to recruit and retain students.

5. Investigate student housing and transportation needs, costs, and opportunities and implement corrective actions such as car pools and landlord liaison.

6. Set up a program and data base for the systematic screening, training, rewarding, and evaluating of faculty advisors. Make the best advisors available to high-risk and commuter students.

7. Institutionalize survey research efforts to routinely study the perceptions of the college environment of both current and incoming students.

8. Initiate mandatory evaluation, review, and control procedures for all intervention programs designed to improve student retention.

[1]Appendix C shows the questionnaire used in a recent national retention survey sponsored by NCHEMS and ACT.

Organizational and Procedural

1. Decrease the scale, bureaucracy, and impersonal nature of University operations through procedural reforms and staff development workshops.

2. Reduce the influence of individual faculty members in developing the class schedule; use student demand data to determine the number and times of course sections.

3. Set up a campus-wide recruitment and retention office to integrate and coordinate these functions.

4. Encourage the Chancellor's Office to assist in developing new degree options, off-campus sites, more or larger classrooms, dormitories, and more flexible general education requirements.

5. Achieve greater structural and functional integration among academic, psychological, and career counseling activities.

6. Institute a planned student leave or stopout program to ease the process of re-entry.

7. Achieve greater community understanding of and support for the institution through expanded public relations and outreach efforts.

8. Do something about parking.

9. Give first-time freshmen preferential treatment in scheduling, advising, housing, and anything else possible; capitalize on the unique strengths of the institution that attracted the students in the first place.

10. Reorient the structures, functions, and procedures of student services to respond to the needs of a non-traditional student population.

11. Experiment with alternative and more flexible grading and probation policies to assist the academic performance and retention chances of marginal students.

12. Experiment with credit for prior learning and other non-traditional approaches to the delivery of higher education services; evaluate the effects (if any) of such incentives on participation and retention rates.

13. Evaluate campus public relations activities and publications with the goal of achieving a better fit between the realities of the University environment and student perceptions and expectations.

Advising

1. Differentiate academic advising functions by type of student served, and institutionalize special services for general education and undeclared majors.
2. Review the University's orientation program and transport techniques developed at other campuses.
3. Generalize the EOP model of student involvement and advisement to other types of special student clientele of a high-risk nature. Make resources available to do this.
4. Seek funding to implement training programs for faculty advisors; provide resources for advising by reducing faculty workload elsewhere.

5 . Sponsor campus involvement, study skills, and career planning courses for specific student populations.
6 . Examine the feasibility of computer-assisted and multi-media approaches to academic advising.
7 . Develop programs to use parents and peers as retention agents, especially for first generation students.
8 . Modify freshman-oriented retention strategies to address the needs of transfer students.
9 . Redefine and differentiate faculty roles and responsibilities to permit greater "one-to-one" interaction with students. In particular, decrease committee assignments.
10. Increase the use of peer counselors wherever possible as an efficient means of increasing the number and (quite often) quality of services available to students.

Campus Involvement

1 . Increase student involvement in and identification with the campus through part-time job opportunities on campus, student clubs, and extracurricular activities.
2 . Develop a comprehensive and integrated retention program that specifically addresses the needs of commuting, part-time, and adult students.
3 . Devise class formats which simulate short-term residential experiences (e.g., weekend seminars, field trips, group learning activities generally).

Unfortunately, exercises of this nature are seldom very enlightening. Policymakers are usually urged to do everything possible since all of the suggestions seem like such good ideas. And, while there is unlikely to be much compelling evidence supporting the efficacy of any one activity, neither is management willing to take the risk of doing nothing.

Still, it is certainly true that some strategies are more costly than others; that some address the needs of special clientele; that some have been implemented and tested elsewhere; that some are prerequisites for others; and that some enjoy more support and acceptance in a given university community. Based on considerations of this nature, it makes sense to attempt some of the low-risk, low-cost options if they appear to possess special relevance for addressing a campus' needs. The next two sections will attempt to identify and expand upon some of the more promising alternatives from a systemwide perspective.

CAMPUS SUMMARIES

Administrative officials on each of the 19 campuses in the CSUC were asked to provide copies or references of the most important attrition/retention studies conducted at their institutions. The responses were uneven. Some campuses provided a rather detailed package of statistical and research materials; others were more selective. Additionally, interviews ranging from two to four hours were conducted at each campus. Academic vice presidents, directors of EOP and institutional research, deans of student services and admissions and records, counseling and advising personnel, and other administrative officials offered facts and judgments based on their knowledge of and experience at the institutions. Below is a highly selective summary of this information.

The purpose of the listing is not to offer a complete statistical profile of each campus (other publications exist to serve this function), nor to cite what the campus is doing of a rather traditional nature (e.g., counseling, advising, etc.), nor to identify all of the things a campus is not doing about attrition. Notes on the campuses are divided into four categories:

1. Important facts about the institution or its students.
2. Innovative or significant efforts and strategies for addressing student attrition (including research studies).
3. Problems and perspectives (i.e., the judgments and conclusions of those interviewed).
4. Reports available.

Accordingly, the first category is limited to facts that are somewhat unique to a given campus and which may serve to modify some of the general findings reported in this study. The retention programs, research, and strategies are ones which are different or innovative, and which might be worth replicating elsewhere in the system. The problems and perspectives category offers what seemed to be among the most interesting and important points made by campus officials in the interviews. Notice the strong tendency to study the problem as opposed to acting on it or evaluating what has been done.

No attempt is made to present explicit comparisons among the campuses, or to draw judgments about the campuses along any of these dimensions. The items (their order is unimportant) are intended merely to serve as points of reference to guide future retention research and program development in the system. In addition, the summaries may be useful for more general policy considerations in the area of student retention.

BAKERSFIELD

Facts:

1. An Academic Village Survey in 1977 revealed among other things, that 8% of students who had dropped out had left the area, 10% had transferred, and only 3% cited financial problems.
2. The average commuting distance is 36 miles round-trip; the University is constrained by the Legislature from offering external degree programs.
3. Dropouts and stopouts work about 28 hours per week, and a relatively high percentage of students receive financial assistance.
4. There is some indication that the quarter system increases attrition.

Strategies:

1. A study is in progress of 3,000 CSCB students who had attended in the past but who were not continuously enrolled during the period of Fall 1976 - Fall 1978. The survey was initiated at the direction of the President. The goal was to distinguish among dropouts, stopouts, and transfers since CSCB officials suspect that a large percentage of their non-continuing students transfer to other campuses, largely because of curricular limitations at CSCB. See Appendix D.

Problems:

1. There is usually a lack of coordination on developing retention strategies, although recent events indicate strong centralized initiatives.

2 . There is a strong lack of student orientation among the faculty who tend to be more familiar with the culture of private colleges and more traditional student populations.

3 . There is need for greater career orientation and local autonomy in setting general education requirements for students and in making broad curricular decisions on the mission of the University; there is too much programmatic direction from Sacramento and the Chancellor's Office, often unrelated to local needs.

4 . There is a generalized failure among Sacramento officials and the Chancellor's Office to recognize and respond to the competitive nature of higher education in the state, both within the CSUC, and between the CSUC and other segments.

Reports:

1 . Summary of Fall 1974 Registration as of Census Day prepared by the Office of Institutional Studies and ADP.

2 . Survey Results on Non-returning , Pre-registered Students Fall 1977, James H. George, Jr.

CHICO

Facts:

1 . Perhaps the most detailed aggregate research on attrition by a local campus in the CSUC has been conducted by the Office of Institutional Research at Chico. A locally developed computer program was used to produce the figures in Appendix E. The data were drawn from the 1973-76 ERSS files and show that about one-half of an entering freshman class remains at Chico State for four years, a persistence rate comparable to national findings. At the time of the study (July 1977), persistence rates at Chico for new students, undergraduate transfers, and graduate students were declining from previous levels, traditionally among the highest in the system.

2 . Chico has one of the most traditional student populations in the system and attrition rates are predictably low. The students at Chico consciously chose a small, rural environment; the campus shows a net gain in intercampus transfers and its chief intra-system competitors are San Luis Obispo and Humboldt.

Strategies:

1 . The summer orientation program appears to be very successful. A major emphasis is on cultivating parental support for the institution and student retention.

2 . The advising structure at Chico tends to assume a more active posture toward the student than is true on commuter-oriented campuses.

3 . Faculty and community identification with the campus is rated as excellent.

4 . Introductory, general education courses are prime foci for retention efforts (e.g., through faculty training).

5 . A group of select faculty has recently been chosen to advise undeclared majors.

Problems:

1 . Consolidation of learning skills resources and activities could broaden their scope beyond a traditional EOP audience.

Reports:

1 . Student Retention: Dropouts and Changes of Major at CSU, Chico, August 1976, Safarik, J. and Worth, C.

2 . Student Retention: Persistence of New Students at CSU, Chico, July 1977, Safarik, J. and Russell-Horton, A.

3 . Student Persistence at CSU, Chico, November 1978, Safarik, J. and Worth, C.

DOMINGUEZ HILLS

Strategies:

1. A student persistence study was conducted using the software developed at CSU Chico. See Appendix F for some results. No recommendations were developed.
2. A course on the "Dominguez Hills Experience" was offered through the University College; topics covered included goal setting, educational goals, time management, library utilization, grading policies, and overcoming deficiencies. A course outline and evaluation is available.

Reports:

1. Student Persistence at California State University, Dominguez Hills, Fall 1978, Holmes, Emory H. and Luke, Jo Ann.
2. Information on the Dominguez Hills Experience Course, Winter 1979, Gray, Larry and Martinez, Rose-Anne.

FRESNO

Facts:

1. The University has a relatively high percentage of full-time students; about 50% of student population lives in close proximity to campus.

Strategies:

1. Officials indicate some effort is being made to maintain student ties with the University after leaving through library privileges and a campus newsletter.
2. A mail survey of non-continuing students was completed in Spring 1977. Some major findings are reported in Appendix G.

Problems:

1. There was a general sense that counseling resources might be more profitably spent on academic and career advising, and that there was a need for more assigned time for faculty advising.
2. Campus officials expressed some concern over transfers, although the data are quite positive.

Reports:

1. CSUF Data Book: Students, Fall 1978, Institutional Research.
2. Study of Non-Returning Students: California State University, Fresno, Spring 1977, Jeanie Spidell, Jerry Tusen, Sonia Villarreal.
3. Summary Report for Spring, 1979, Admission Cycle, Admissions and Records Office.
4. Registration Statistics, March 1, 1979, Office of the Registrar (at the end of 4 weeks of instruction).

FULLERTON

Facts:

1. Depth interviews were conducted with 71 randomly selected new students (freshmen and juniors) in Fall 1978 by the Testing and Research Center. Interpersonal relationships (especially with staff) emerged as a major concern of those interviewed.
2. Surveys of 372 high school seniors (Fall 1978) and of 400 community college students (Spring 1979) identified proximity, career preparation, reputation, and costs as the major considerations in institutional selection in the Fullerton service area.
3. The Office of Institutional Research has conducted five annual studies of several hundred non-

continuing students, through mail questionnaires and follow-up telephone interviews. The major reasons for withdrawal cited by the students have been employment, transfer to another institution, stopping out with expectations to return, financial problems and programmatic considerations.

Strategies:

1. The Office of Academic Resource Planning and Analysis has examined student attrition at different stages of the registration process and during the semester; data were analyzed by department.
2. A Retention and Recruitment Committee was formed by the President in Fall 1978. The committee's recommendations focused on advisement, scheduling, orientation, campus involvement, and data analysis.
3. A series of staff development workshops were implemented in Spring 1979. The major concern was improving staff-student relationships. Evaluation data indicate positive reactions from the participants. An overview of the pilot project is contained in Appendix H.

Reports:

1. An Investigation of the Experience of New Undergraduate Students at Cal State Fullerton, Summer 1979, Buck, C.W. and Clark, P.M.: Testing and Research Center, Student Services, CSUF.
2. Undergraduate Students who did not Continue from Spring 1977 to Fall 1977, CSUF, Office of Institutional Research.
3. Survey of High School Seniors: Fall 1978, CSUF, Office of Institutional Research.
4. Student Attrition During Registration, Fall 1978, Daigle, Steve, Fall 1978.
5. Report on Academic Advisement, Ad Hoc Committee on Academic Advisement, Fall 1978.
6. A Proposal on Retention, California State University, Fullerton, The Committee on Retention (Walkington, David - Chair, Brown, Giles - Recorder).
7. A Proposal on Recruitment, CSUF, The Committee on Recruitment, Fall 1978.
8. A Study of University Dropouts: CSUF, CSUF, Office of Institutional Research, Spring 1974.
9. Preliminary Report of the Survey of Non-Continuing Students: Fall 1976, CSUF, Office of Institutional Research, Spring 1977.

HAYWARD

Facts:

1. Evidence from several housing surveys reveal that Hayward students are experiencing most of the problems traditionally associated with a commuter status - employment, family, age, transportation, and housing. The data indicate rather strong student preferences (25%) for some form of campus residential facilities. The 1976 study presents a very detailed picture of these problems among Hayward students.
2. A retention study of the Fall 1973 entering class revealed important differences in continuation rates among regular admits, disadvantaged exceptions, and nondisadvantaged exceptions. Additionally, it was concluded that "attrition remains an important enrollment problem with nearly three times as many students leaving for reasons other than low scholarship as those in academic difficulty." Appendix I shows summaries of this study.
3. Some feeling that the quarter system may contribute to attrition by encouraging short-term commitments and heightening the pace of academic demands. The loss between fall and winter quarters is fairly high and the average loss per quarter is about 15%.

Strategies:

1. Existence of student volunteer GE advisement, and undeclared major advisement program.
2. A major study of continuing and non-continuing students covering Fall 1976 - Fall 1978 was due to be completed in Fall 1979.

3 . Testing Services produced several reports on student attrition at CSUH in 1977-1978. Some results of the survey are shown in Appendix I.

Reports:

1 . Why Students Leave CSUH, A Survey of Voluntary Withdrawals from Fall 1973 through Winter 1975. CSUH Student Services Report #4-76/77, Testing Services, Winter 1977.

2 . Highlights of CSUH Drop-Out Study, CSUH Student Services Report #5-77/78, Testing Services, Summer 1978.

3 . Selected CSUC Enrollment Characteristics - Myths and Realities, CSUH, Student Services Report #3-76/77, Winter 1977, Lyle Edmison, Dean of Students.

4 . 1976 Housing Arrangements of CSU, Hayward Students, Part I, H. Hosking - Housing Services and L. Edmison, Dean of Students, Winter 1976.

5 . 1976 Housing arrangements of CSU, Hayward Students, part II, H. Hosking - Housing Services and L. Edmison, Dean of Students, Spring 1977.

6 . Others Who Stayed - Revisited, CSUH Student Services Report #3-77/78, L. Edmison, Dean of Students, Fall 1977.

HUMBOLDT

Facts:

1 . A survey of the 1978 freshman class showed that "location" and "field of study" were the most important reasons for attending Humboldt. This contrasts sharply with students at most commuter-oriented campuses in the CSUC, who tend to cite such things as cost and convenience as primary motives for attending. Results of "If I Drop Out" items are shown in Appendix J.

2 . It appears that retention is a far more serious problem than recruitment at Humboldt. Students are attracted by the location and fields of study, yet leave for the same reasons when expectations clash with reality (i.e., lack of housing and jobs; social and physical isolation; weather; and a rigorous academic program). A summary of graduation and dropout rates is offered in Appendix J.

3 . Humboldt is better able to retain transfers than first-time freshmen – transfer continuation rates rank second in the system.

4 . About 20% of HSU dropouts are actually local (and perhaps older) residents who appear to use the University as a source of continuing education (i.e., are stopouts).

5 . The geographic diversity of the student population at HSU is immense; this complicates problems of building social support networks.

6 . Evaluation data indicates that EOP-sponsored orientation and career planning courses did serve to lower the dropout rate for those attending. Reports are available.

Strategies:

1 . A 1978 presidential task force on student retention produced a comprehensive profile of student attitudes toward the institution together with some policy suggestions.

Reports:

1 . Socio Economic and Psychometric Characteristics of the Freshmen Class, Humboldt State University Testing Center, Spring 1979.

2 . Report of the Results of the Recent Graduate Questionnaire Mailed to June 1976 HSU Graduates. Academic Resources Allocation Committee and the Office of Academic Affairs, Fall 1976.

3 . Graduation and Dropout Rates of Humboldt State University, Admissions and Records, Summer 1979.

4 . Student Retention, Anderson, Robert, Summer 1979.

5 . Report of the President's Task Force on Student Retention, Summer 1978.

LONG BEACH

Facts:

1. Perhaps the most persistent complaints at CSULB concern problems of "community" and of "scale", inadequate personal contact between students and faculty, lack of personal concern for students, and academic advising. The summary of a recent study (Appendix K) offers support for this assumption.
2. The most recent study on attrition at CSULB found that the yearly net loss was 30% for undergraduates and 40% for post-baccalaureates.

Strategies:

1. Little survey data is available at CSULB (with the exception of exit interviews), although departmental surveys of dropouts are planned.
2. In Spring 1979, the President asked all division heads to provide action plans on enrollment enhancement. A University-wide plan and implementation are anticipated.

Problems:

1. The institution has recently initiated new administrative structures, and special orientation and advisement programs to address student retention. Declining FTES figures are new to Long Beach, and hence it is perceived by most except the top administration as a relatively new problem.
2. Dr. David Gray, Vice President for Administration, has written a provocative paper entitled, "The Myth of the Steady State." Because of its critical observations and its special relevance to retention problems in the CSUC, the paper has been reproduced in Appendix L. In particular, attention is directed to Gray's remarks on serving the adult student and his notes on a model of the new university environment on pages 10-20.

Reports:

1. The Myth of the Steady State, Gray, David E., Fall 1974.
2. The Enrollment Outlook the Next Decade and Beyond, Gray, David, and Beres, F., March 1979.
3. Attrition, Littrell, R., and Beres, F., March 1979
4. Student Withdrawal from the University and Classes, Fall Semester 1978, Littrell, R. (Institutional Research), April 1979.

LOS ANGELES

Facts:

1. As with most large, urban, commuter campuses, community and bureaucracy are persistent problems (not to mention more mundane concerns such as parking).
2. Academic disqualifications at CSULA are among the highest in the system. Financial aid also assumes a higher than average importance here.
3. The nature of the student population sets severe limits on retention efforts at CSULA. For example, relatively high percentages of its students have low academic achievement records, limited educational expectations and aspirations, and are economically disadvantaged.

Problems:

1. Administrators emphasized that student need rather than FTES considerations should animate retention efforts.
2. Given the importance of the non-traditional student to CSULA, some expressed the feeling that the faculty exerted too much control over the class schedule, particularly in terms of the times of course offerings. Job schedule conflicts account for about 50% of CSULA dropouts.
3. Most of the important retention structures are in place, but their activities are poorly focused and coordinated.

Reports:

1 . Retention Studies, Long, W.F., March 1978.

NORTHRIDGE

Facts:

1 . 31% of the full-time entering freshmen do not enroll one year later at Northridge, and 48% fail to enroll after two years.

Strategies:

1 . Several retention programs have been implemented for special target audiences (minorities, women, undeclared majors on academic probation). Initial evaluative data appear positive.

2 . The major study to date on attrition at CSUN was completed in 1978, "Trends in Attrition and Persistence at CSU Northridge." The most important findings are shown in Appendix M. Several retention strategies were proposed as a result of this analysis of aggregate data.

3 . The President has recently appointed a task force to examine student attrition at the University. It is generally perceived as a "new," or at least different, problem for Northridge.

4 . A planned student leave program has been implemented to assist re-entry of stopouts.

Problems:

1 . Inter-system transfers may be less common than inter-segmental transfers for Northridge students.

2 . Northridge experiences most of the problems associated with a large, urban, commuter campus, especially ones of interpersonal bonds, bureaucracy, scheduling, and advising.

Reports:

1 . Trends in Attrition and Persistence at California State University Northridge, Vol. 1 #7, Office of Institutional Research, November 1978, Lorraine Newlon and Gerald Gaither.

POMONA

Facts:

1 . A major survey of 1,952 students was conducted in 1978 by the Test Center. Curricular offerings and proximity dwarfed all other reasons for attending Pomona.

Strategies:

1 . Although social life is limited at Pomona, there is a relatively high level of participation in major clubs.

2 . The Career Resource Center is one of the most detailed operations in the CSUC.

Problems:

1 . Formula funding (based on mode and level of instruction) places Pomona at a competitive disadvantage with less specialized institutions in the system.

2 . Given continued high enrollments and the specialized character of the curriculum at Pomona, retention is perceived as a less serious and urgent issue than on many other campuses.

Reports:

1 . Analysis of Data from the New Study Survey, Bradley, Robert (Test Center), CSUC Pomona, January 1979.

SACRAMENTO

Strategies:

1. The four surveys cited below turned up few findings which were surprising.

Problems:

1. Lack of space is a major problem in class scheduling at Sacramento, particularly large classrooms.
2. Past political turmoil in the administration weakened efforts to coordinate retention activities. Moreover, campus-community linkages are weak and the off-campus involvement of the faculty tends to be rather pronounced.

Reports:

1. A Study of Freshmen and Transfer Applicants who Didn't Enroll at California State University, Sacramento for the Full Semester of 1976, Angell, Melvin A., and Fassio, Mancy (Institutional Research and Computing Services) Report 77-3, October 1977.
2. Departmental Advising Survey Spring 1977, Academic Advising Center, 1977.
3. Descriptive Characteristics of Non-Returning Undergraduates, California State University, Sacramento, Institutional Research and Computing Services, June 1975.
4. Study of Impressions by Fall 1976 Dropouts, Institutional Research, January 1978.

SAN BERNARDINO

Facts:

1. Fully 80% of the first-time freshmen at CSCSB live at home with their parents; transfer rates tend to be above average for the system.
2. The evening, adult, part-time student constitutes the largest block of students at San Bernardino.

Strategies:

1. A tentative class schedule is published two quarters in advance to facilitate academic planning by the student.
2. San Bernardino has relaxed its strict G E requirements somewhat; the immediate and long-term effects on retention cannot be estimated.
3. Learning Resource Services is generally conceded to be a major factor in retention at San Bernardino.

Problems:

1. As on most small, rural campuses, there are few large classrooms which could provide greater flexibility in scheduling.
2. The time constraints of a quarter system permit little time for the student or institution to react to problems.
3. Greater program flexibility and development of off-campus sites are major concerns among those interviewed.

Reports:

1. Attrition Study (Student graduating from high school in June 1970 and June of 1972). Prouty, Dean - Admissions and Records.

SAN DIEGO

Facts:

1. About 20-25% of the full-time entering freshmen at SDSU fail to enroll one year later.

2. The major reasons in student attrition at San Diego are (in rank order): competition between work and school; difficulty getting desired courses; personal pressures; housing shortages; institutional size.
3. Institutional location, reputation, and support services are rated by the adminstration as highly positive factors in recruitment and retention at San Diego.
4. A study by the Office of Institutional Research showed that continuation rates for first-time freshmen and new transfers were about 2% higher than systemwide averages.

Strategies:

1. The San Diego State University Poll was established in 1973 as an ongoing research project designed to provide continuous and current data on student attitudes and preferences. The poll is conducted each semester and includes about 300 randomly selected students. It is a product of the Division of Student Affairs and the Social Science Research Laboratory. Registration, crowding, and parking turn out to be persistent complaints of students about the University.
2. A new Dean of Undergraduate Studies position will assume primary responsibility for coordinating retention efforts at the University.

Reports:

1. The San Diego State University Poll, Final Report, Strand, Paul J., Fall 1978.
2. The San Diego State University Poll, Final Report, Strand, Paul J., Spring 1979.
3. Student Persistence (New Students Attending the Fall 1973 Term), McCornack, Robert L. (Institutional Research).

SAN FRANCISCO

Strategies:

1. The institution is currently examining the feasibility of an on-line computer assisted registration system with an advising component built into it.

Problems:

1. The highly politicized environment at SFSU tends to complicate administrative-faculty communications on the problem of attrition. With enrollments still high, interest in the subject is low anyway.
2. The sheer diversity of the SFSU student population is enough to frustrate any single or simple retention model or philosophy. Only a highly differentiated approach (e.g., for advising) will work.

SAN JOSE

Strategies:

1. A retention committee study was conducted in 1977 by the Sociology Department, Survey of Non-continuing Students.
2. During the Spring and Summer of 1976, the Undergraduate Studies Department and the Department of Testing and Evaluation at SJSU received two survey questionnaires from 13,098 students and 512 faculty members on academic advising. The results from the two surveys were the first such large-scale data available in the CSUC system. A list of recommendations was developed, with special emphasis on a faculty reward system. A copy of the questionnaire is presented in Appendix N.

Reports:

1. Student Persistence, Term to Term, Academic Planning, John K. Foote, 1976.
2. Analysis of Two Surveys of Student and Faculty Opinion of Academic Advisement Services, Linda Stabler - Counseling Department and Department of Testing and Evaluation, 1977.

SAN LUIS OBISPO

Facts:

1. SLO has the fewest recruitment or retention problems in the system due, in large part, to the combined influences of a specialized curriculum and rural, residential environment. About 24% of full time entering freshmen do not enroll one year later, and 38% after two years.
2. About 60% of the programs of study at SLO are available at only two or three other campuses in the system, so attrition due to transferring is small.

Strategies:

1. Student involvement in campus life, high teaching quality, and excellent advising and counseling services are believed to contribute to the retention performance of SLO.
2. The self-supporting orientation program at SLO (Week of Welcome) has served as a model for others in the system and nationally. See Appendix O.
3. SLO has carefully cultivated and maintained close liaison contacts with community leaders, with indirect benefits to the students.
4. Institutional identification among students, faculty, and alumni is rated strong.
5. Data suggest that the peer counseling program and study skills course for EOP students are effective retention strategies.
6. As a prerequisite for admission to SLO, students must declare a major which channels them into the departmental advising program.

Problems:

1. SLO officials were somewhat critical of the "homogenized mind set" of the Chancellor's Office toward campuses in the system (i.e., SLO programs and students are different, with different needs).

Reports:

1. Profile of Student Characteristics for Cal Poly SLO vs. CSUC System, Institutional Research (L.H. Dunigan), 1979.
2. Report on Enrollment Trends and Institutional Characteristics, Institutional Research (L.H. Dunigan), December 1978.

SONOMA

Facts:

1. The primary studies on attrition were two student surveys of non-continuing students in 1974 and 1978. Rural location and physical proximity were the major reasons for attending Sonoma in the 1974 survey; the primary reasons for leaving were "unsatisfactory educational experience," and health, personal, or family problems. English and Political Science majors ranked highest among those who transferred to another college.
2. Sonoma loses many students to both the CSUC and UC systems, some on account of the perceived low level of academic challenge at the college.

Strategies:

1. Given the importance of the stopout student, attempts are being made to institutionalize re-entry activities.

Problems:

1. A general feeling among administrative officials is that the faculty at Sonoma have very few personal or professional loyalties to the institution; a Bay Area orientation, lifestyle, and residence often detract from addressing the problems of a rural, commuter campus.

2. Program strictures are viewed as important factors in Sonoma's attrition problem – namely, the inability to begin or expand off-campus sites and to broaden curricular offerings to more career-oriented disciplines.
3. Dormitories and larger classrooms are serious physical needs of the campus.

Reports:

1. Preliminary Report on a Survey of Attrition Among New Undergraduate Students, Institutional Research (Dr. George L. Proctor), September 1974.

STANISLAUS

Strategies:

1. A presidential task force was collecting data on student attrition in late spring 1979.
2. The campus is in the process of differentiating between first-time freshmen and undergraduate transfers in reform of its orientation program.
3. An academic advisement center is being developed. Despite mini-grant funding to train faculty, full implementation has been delayed due to resource limitations.

Problems:

1. As in the case for other rural, commuter campuses, development of off-campus sites and programs would aid both recruitment and retention. The undergraduate transfer rate is fairly high.
2. The institution feels plagued by a serious lack of financial, physical, and human resources. For example, many courses are not offered and additional sections are not made available because of resource constraints.
3. Low faculty morale and political activity often serve to negate the primary advantage of a small campus – interpersonal relations.
4. Formula budgeting is limiting the institution's flexibility to experiment.

SUMMARY

Here are a few major conclusions that might be drawn from the somewhat random notes on the campuses listed above (together with other information).

1. There are not many dramatic, consistent, or persuasive pieces of evidence about attrition rates or their causes that might lead one to seriously question the general findings discussed earlier. Several campuses have done very little research on attrition of either an aggregate or survey nature. Those that have tend to uncover rates and reasons that sound reasonable and predictable. Attrition is barely recognized as a problem on campuses with healthy enrollments (i.e., replacements), and this often accounts for a lack of research or action. However, it is apparent that most presidents in the system do appreciate the nature and implications of the problem.

2. There are certainly isolated instances of imaginative retention strategies in the system. Some have been shown to be very successful but, in general, more programs are proposed and recommended than implemented, and fewer still evaluated or terminated. No one has solved the riddle of advising, yet everyone thinks that it must be important. Despite all the concern for academic issues, nowhere did academic disqualification account for more than 3-5% of the dropouts.

3. Most of the interviews were tame and routine, but a few were sharply critical of the system and higher education generally.

4. Clearly, San Luis Obispo and Chico (and to a lesser extent, Fresno) are the success stories in the system. It could be argued that such campuses have a great deal working in their favor to begin with, and that is certainly true. What is most interesting, however, is the quality of advising, orientation, learning centers, and social activities on these campuses, as if they were not content to permit demographic factors alone to produce high retention rates.

5. All of the large, urban, commuter campuses seemed to have rather similar problems. It might be suggested that any solutions (if they exist) should be forged out of some kind of common or integrated effort.

6. The four small, rural, commuter campuses (Bakersfield, Sonoma, San Bernardino, and Stanislaus) expressed near identical sentiments about the needs for expanded and career-oriented program offerings, off-campus sites and degree programs, and more large classrooms. Most of these remarks were directed to the Chancellor's Office and the Legislature.

7. The two technical schools argued for greater autonomy and independence in the system, especially in terms of resource decisions.

8. Finally, persistent questions were raised about the effects of the quarter system on attrition. There are few reliable answers at present, and the issue may be worth a thorough investigation by the Chancellor's Office.

Again, these brief sketches are not necessarily indicative of the actual levels or quality of retention activity on a given campus. They reflect information which was most accessible and should not be considered complete campus profiles.

CONCLUSIONS AND RECOMMENDATIONS

Despite their considerable diversity in location, size, and programs, the campuses of the CSUC are essentially traditional in their structures and approaches to higher education. Few large, bureaucratic institutions are able or willing to change, modernize, reform, etc., as quickly as social and cultural conditions dictate; higher education is no exception. Yet many would argue that a chief responsibility of the educational system is to act with caution and moderation to rapid (and often transient) social forces. Some institutions are still attempting to recover from the excesses and overreactions to events of a decade ago. The academic vice presidents interviewed were divided about evenly on the question of whether their institution was too traditional, too slow to respond to change, too insensitive to the new needs of a new student population. Some offered a sharp, socio logical critique of higher education generally, and the faults of their own institution specifically; others expressed a sense of general satisfaction with their institution's attempts to balance demands for change with equally serious concerns for quality and stability. Clearly, there is little consensus on whether the CSUC should radically re-think its basic purpose and mission to the educational needs of the state. But for those convinced that it should, the rhetoric, structures, goals, and procedures borrowed from an era of growth and public support appear both vulnerable and irrelevant to the new era of steady state.

The decade of the 1970s (and presumably the 1980s) has witnessed the passing of a major idea in American society – namely, that formal education is good for everyone, and that the more one has of it, the better he will fare in life. Few values were as unchallenged as the notion that education was a prerequisite to happiness and security. In an affluent, secular, and mobile society, higher education enjoyed at least two decades of growth and public support. Its popularity was both a cause and consequence of modernity, and the university became a conspicuous luxury for the sons and daughters of the new middle class.

In addition to the declining birth rate and net decrease in college-age cohorts, at least three other factors might be cited to account for the recent change in the fortunes of higher education. First, the social and cultural revolution of the 1960s, fueled by war and the civil rights movement, presented a major challenge to all values and institutions considered part of the American establishment – familial, economic, religious, and educational. Higher education was attacked as elitist, bureaucratic, and impersonal in a generation that sought relevance through humanistic values and anti-scientific slogans.

Second, the twin economic forces of recession and inflation in the 1970s presented new and contradictory challenges to higher education at about the time it has assimilated the changes of the 1960s. Now, rather than social relevance and humanistic innovation, universities were asked to provide technical training, expand professional programs, and increase career counseling. Paradoxically, many students (and parents) began to discover that college was largely irrelevant to concerns of jobs and financial security, and that its chief value may be of a more latent and diffuse nature. In the new era of accountability and economic evaluation, political elites, too, began to ask critical questions about the costs and benefits of college. Their conclusions have increasingly been ones of heightened skepticism and fewer resources.

Finally, if there were good reasons for never entering college, there may be equally compelling arguments for leaving. Thus, where once existed the stigma of dropout and failure, more benign alternatives were entertained by colleges and students alike – stopout, revolving doors, credit for experiential learning, internships, external degree programs, extended education, adult education. Traditional notions of what constitutes higher education, degree programs, and a college population have been radically altered in a very brief period of time. Although academic rigor, teaching effectiveness, and administrative efficiency are still dominant concerns, they currently compete for attention and resources among newer and often more urgent concerns of student marketing and retention.

Thus a major cultural and economic transformation of the American social structure (e.g., the historic shifts toward post-industrialism) has rendered the traditional value of a college degree less defensible, or at least less apparent to many. A heated academic and popular debate currently revolves around this issue. Much of the controversy hinges on the economic versus "other" benefits (social, psychological, aesthetic) of a college education, and there is a growing public awareness that the monetary utility of higher education is far less certain than even the more intangible psychic rewards. Although the data are uneven in some places, the general perception (and much of the reality) about college is that it offers more in the way of personal

development than in direct financial advancement and security. The linkages between academic preparation and career potential were always blurred for some disciplines, but there was a reservoir of cultural support to sustain enrollments. In a social environment of pragmatism and concern for security, higher education is clearly casted in a defensive role of proving that it offers rewards that are both tangible and immediate. Despite thoughtful assurances and much scientific evidence that it is indeed all worth the effort and investment, surveys of both political elites and the general public indicate growing orientations of skepticism and even hostility toward the idea of college.

This merely suggests that student attrition in the CSUC or anywhere else must be viewed in light of broader social, cultural, and economic developments of the past two decades. While attrition rates have not changed much in almost 50 years, the reasons, both objective and subjective, for leaving college probably do vary with the historical era. The important point about the 1980's is that higher education is likely to continue to be in a negative and defensive position – greater political scrutiny and public skepticism; severe enrollment problems and resource constraints; increased pressures for wider access and perhaps lower standards.

Given these conditions, the CSUC system and the individual campuses must seek to answer at least two preliminary questions about student attrition and retention:

1. Why is retention an important issue? First, in a decade of declining 18-24 year old birth cohorts, greater retention of continuing students (especially lower division) may offer the only opportunity for enrollment stabilization or modest growth; it is in the self-interest of the system to maintain enrollments at the highest level possible in order to preserve academic programs, prevent faculty dislocations, and maximize resources. Second, as a system of public education, there is a legal commitment of public accountability and a moral commitment of community responsibility; both hinge, in part, on the ability of each campus to provide sufficient resources and incentives to meet the needs of its student clientele, usually measured in terms of awarding degrees. Third, most educators share a common philosophical belief in the ultimate value of education to the individual and society. In order to fully exploit the potential of higher education, qualified students must be encouraged to continue their studies. For all of these reasons – financial, legal, political, moral, social, and philosophical – retention is at least an important issue, if not an absolute good.

2. Are there things the system cannot do about attrition, and reasons why it should not? On both counts, the answer is yes. Environmental trends and events obviously set rather severe limits on the nature and magnitude of the problem, and the range of possible responses to it. The system and the individual campuses have relatively little to say about those political, economic, cultural, and social events which have direct or indirect implications for student continuance. Similarly, a host of personal contingencies (financial, health, family, job, etc.) are largely beyond the scope or control of the institution. It is important to remember that neither the student nor the institution is to "blame" for much of the attrition that occurs; rather, it is often a normal, logical, intelligent, or unavoidable response to a set of objective conditions quite unrelated to either the abilities of the student or the performance of the institution.

However, even considering that portion of the attrition rate which is theoretically "controllable" by the institution (i.e., can be prevented or decreased), there may be academically sound reasons for tolerating it. First, there is a direct and positive relationship between selective admissions policies and low attrition rates; in a system committed (legally and otherwise) to open access and equal opportunity in admissions, a relatively high attrition rate is insured and automatic (e.g., much of the difference in attrition rates between the University of California and the CSUC can be explained in terms of admissions standards). Second, there is an inverse relationship between academic quality and student retention; meaningless general education programs, grade inflation, and non-demanding courses and degree requirements could improve retention rates, but at unacceptable costs to the academic integrity of the institution. Third, in a social context of heightened career awareness and sensitivity, a greater vocational emphasis by the system might improve retention rates; however, an important aspect of the academic mission of the CSUC is to provide a broad liberal arts educational experience, and not one which is narrow and technical in focus or intent. Fourth, institutional resources and student retention are positively related; unlimited spending on student services, facilities, libraries, computers and technical equipment, and a host of other items could be expected to favorably impress a University community. Obviously, there is no evidence to indicate that either the Legislature or the public values student retention enough to warrant such investments. Fifth, the CSUC must balance both growth and decline,

change and stability; short-term retention strategies may have negative and long-term programmatic consequences. Finally, in an environment increasingly prone to competition among educational segments, the CSUC is committed to a policy of inter-segmental cooperation; this implies flexible rules and regulations to permit the student to "move about" as his needs for personal and academic development dictate.

Recommendations

One of the most consistent findings which emerged from the interviews with campus officials concerned the role which a "perceived sense of crisis" contributes to policy development and implementation. There is a strong and rather direct correlation between enrollment decline on a campus and its level of interest and involvement in retention programs. It seems clear that unless a pervasive sense of crisis exists over student enrollments, the institution may be inclined to study the problem of attrition, but seldom moved to do much about it. As the replacement population decreases on a campus, administrative and faculty interest in retention increases. Lacking strong administrative leadership and some threatening enrollment figures, the faculty on any campus is unlikely to accord retention a high priority. And without faculty involvement and participation, retention rates are far less responsive to even the most imaginative programs. The simple fact is that hard times is the single, most powerful, motivational determinant of mounting a serious retention effort. Neither Presidential exhortations, administrative rhetoric, nor committee studies on retention are adequate substitutes for the realization that an institution (e.g., a department, a faculty member) is facing an immediate loss of support due to FTE decline.

Clearly, campuses in the CSUC are aware of and actively involved in addressing the problem of attrition. Every campus can point to at least one campus-wide retention study in the past few years; most campuses have produced several comprehensive surveys of student attitudes or major demographic reports useful for studying their student populations. All but a handful of campuses have recently appointed committees or task forces to study the problem, most reporting directly to the president. Every campus can point to a major retention effort in at least one important area – academic advising, orientation, career counseling, learning resource centers, scheduling, social events, etc. Based on this considerable amount of research and level of activity, one might infer that attrition is both well understood and is being significantly decreased. Neither assumption is accurate. Despite all the data available (from published sources, the Chancellor's Office, internal documents), campus administrators expressed almost universal agreement that little of it conveys information, i.e., offers much in the way of policy solution. Despite all the apparent concern and activity devoted to helping students, very few administrators were able to offer any evidence (convincing or otherwise) that such efforts were effective.

Platitudes abound in most writing on what should be done about student attrition. Administrators are told to provide for easy student access, entry, and re-entry; to provide increased services for high-risk students; to provide satisfying social environments for all students; to refine and intensify academic advising relationships; to develop meaningful orientation programs for entering freshmen and transfers; in short, to do everything they are currently doing, but do it better, and do more. The student services literature seems particularly susceptible to the "do everything" approach; rarely is there a suggestion that certain students should be left alone, that some student services should be dissolved altogether, that an institution should simply stop doing what it traditionally has always done. In the effort to "help" students (and maintain enrollments), the traditional approach to retention emphasizes activities rather than outcomes. Advising centers, orientation programs, counseling centers, and the like attest to the institution's "interest" in the student – the activity itself is assumed to be helpful and productive.

A more rigorous approach to retention requires systematic evidence of a program's effectiveness as the only justification for continuation. And new programs are started only after proper study and planning. Rather than attempting to do everything, a more rational approach is to do a few things well. In an era of constrained resources, this more focused approach requires the political skill and leadership to shift resources, re-define roles and responsibilities, alter existing structures and procedures, and eliminate nonproductive functions. The essence of good retention management is choice, tempered by the realization that a) some attrition is unavoidable and perhaps desirable (for the student); b) the institution has finite resources and cannot begin to address all of the potential needs (social, academic, psychological, career, financial) of students; c) in order to do a few things well, the institution will simply have to stop doing other things. Unless top level management is willing to make such decisions and choices, discussions of retention in the CSUC (as elsewhere) are likely to continue to turn on the "do everything" mentality of wish lists and platitudes.

The lesson seems to be that most attrition research and retention programs in the system and elsewhere are poorly focused. Institutional Research Offices produce long tables of numbers which few understand, much less use. Student Services operations reflect little systematic planning, evaluation, and control; rational management is somehow considered inconsistent with a service orientation. Committees and task forces produce lists of things to do about attrition, with little sense of the politics of implementation or the economics of program costs and benefits. Presidents proclaim retention to be a serious problem and a top priority, but the issue of resources is often left for others to worry about. Everyone has their favorite scapegoats: untalented students; uninvolved faculty; inefficient bureaucrats; soft-headed student services offices; unconcerned staff; and, of course, the Chancellor's Office, the Legislature, and the Governor. The reasons (excuses) for attrition are legion: the students expect too much, and work too little; the faculty will do anything to avoid spending time with students; student services is too psychologically oriented; bureaucratic paperwork is frustrating any effort at procedural reform; and students would surely stay if a given campus could offer more degree programs or off-campus programs, and build more parking lots, classrooms, laboratories, and dormitories.

No doubt all segments (students, faculty, administrators, and staff) of a campus community share in its attrition problem, and all levels of the state's system of public higher education. But such global assessments offer few policy alternatives that are a) empirically defensible, b) financially practical, or c) politically feasible. Again, rhetoric is a poor substitute for hard decisions based on data and resource priorities.

Data analysis should be a prerequisite for rational policy development, although qualitative considerations are equally important. Despite the plethora of empirical studies on student attrition over the past several decades, the data seldom offer unambigous conclusions for policy decisions. Rather, most hypothesized relationships are either weak or non-existent; intuitive assumptions about causes or solutions are often untested or unproven; different studies often produce contradictory findings; and there is relatively little consensus among the most talented analysts of the problem over what should be done. These complications exist both nationally and within the CSUC.

Still, some relationships are stronger and more consistently verified than others, and there are some common-sensical conclusions that can be drawn from the sheer experience of wrestling with the problem. As a preface toward some specific policy recommendations, the following baseline assumptions should be explicitly considered:

1. The diversity of the CSUC - the programs, faculty, students, facilities, and needs generally of the 19 CSUC campuses defy easy generalization or simple characterization. The missions of the campuses are as varied as their size. A purely centralized definition, analysis, or solution of student attrition is neither possible nor desirable. There are multiple causes of the problem which demand multiple solutions, depending on the conditions governing each campus. In the final analysis, each individual campus must assume primary responsibility for student retention.

2. A campus-wide responsibility - retention is not the special purview of either admissions or student services. It bears important relationships to all administrative units in the university - academic programs, facilities planning, faculty and staff resources, public affairs, and so forth. The president, vice-presidents, deans, department chairs, and major administrative offices all share responsibility in the common goal of retaining students. Any action plan should therefore recognize the contributions which each level and office must make in the total effort. This is not to argue that everyone (and hence no one) is responsible, but merely to point out that the dimensions of the problem are such that fragmented and narrowly conceived programs to reduce attrition are not likely to be very successful.

3. Need for a marketing orientation - the pace of social, cultural, and economic change increasingly suggests that "soft" approaches to the problem of attrition will simply not work. Higher education is in a competitive environment, whether it likes it or not (or will even admit it). The concepts, logic, and techniques of the private sector are often quite instructive for addressing issues in the public and non-profit sectors which are structurally analogous. Accordingly, it is imperative that the CSUC develop data bases and informative systems that are marketing and management-oriented in addition to ones which are useful for operational or monitoring purposes. Although some may not fully agree, student retention is less a matter of human empathy than one of sophisticated (and largely impersonal) informative technology.

4. An accountability era - political and public demands for accountability in the public sector are not likely to diminish in the 1980s. Indeed, in addition to the call for greater efficiency, there will also be sustained interest in program effectiveness. Program evaluation is already a major requirement of most federal and state functions, and will continue to be so. It will not be enough merely to show that a college is "doing something" about its attrition problem; it will be necessary to produce tangible, empirical evidence of positive outcomes for its efforts. This simply implies that University management must take a new and critical look at current structures and activities. Most campuses address attrition and retention in certain predictable and traditional ways; few can produce much evidence to show whether doing something (inputs, costs, activities) amounts to accomplishing anything (outputs, benefits, results). Documented effectiveness must be the criteria for evaluating retention programs in student services or anywhere else.

5. Attrition is neither good nor bad - in a growth era, it was possible to think of college as a "survivor" experience, and to consider attrition as the normal consequence of academic rigor and quality. Such notions were comforting as long as there were plenty of replacements. In a steady state era, attrition has suddenly become unacceptable. Formerly, the student was a failure; today, the college must have failed the student. Both views are simplistic. Much attrition is unavoidable from the institution's standpoint, and beneficial from the student's standpoint. Retention programs must be carefully structured to address only that portion of the total problem which is a) controllable and b) in the best interests of the student. Anything more represents wasted and misguided effort.

6. The cost of reform - significant improvement in retention rates will occur only through systematic study, planning, procedural and organizational reform, and commitment of resources. In other words, almost any meaningful solution will incur important financial and/or political costs. From this perspective, most retention studies and programs in the system to date have been superficial; they produced few fundamental changes in who does what, who gets what, and the like. But substantive solutions to attrition are not likely through business-as-usual resource allocations or status-quo political arrangements. Almost all academic vice presidents indicated a willingness to do political battle if such was indicated; most were somewhat more hesitant about commitment or redirection of resources. The fact remains that retention will cost in the same sense that attrition is costly. A retention strategy that is simple and non-threatening is usually an indication that a campus is not willing or able to realistically address the problem.

7. Study versus action - for political and other reasons, most campuses prefer to study a problem than act on what is already known. The bibliography at the end of this report suggests that a great deal is known about student attrition (both nationally and within the CSUC); there will always be more to learn, ambiguities to be resolved, and so forth. However, the academic urge to study and analyze ever greater levels of detail must give way at some point to action and experimentation. One additional study is unlikely to add appreciably to the total store of knowledge about attrition. The most rational strategy is to study the available data, mobilize resources, implement a program, and evaluate its effectiveness. Here is a six step retention strategy that each campus should be encouraged to implement immediately:

a) gather and analyze national, CSUC, and campus demographic and survey data on student persistence and attrition. This has been done on most campuses.

b) based on "a", develop a list of alternative campus responses to the problem along with attendant resource requirements. Most campuses have produced long, ambitious lists of "things to do" about attrition; few such proposals are linked systematically to data, and almost none explicitly indicate resource requirements.

c) conduct a comprehensive, systematic evaluation of current campus programs related to retention; publicize and act on the findings. This is unlikely ever to be done unless mandated (and perhaps performed) by an outside source such as the office of the president or vice president.

d) implement retention strategies developed in "b" with the savings from "c." In other words, redirect resources from weak to strong areas, from old programs which clearly do not work to new ones which might.

e) conduct periodic reviews of attrition rates and evaluations of retention programs(i.e. repeat the cycle).

All of the general observations listed above can be summarized into a few axioms of college retention: attrition has many causes and effects, both known and unknown, controllable and uncontrollable, good and bad;

solutions are easier to hypothesize than implement, and even more difficult to document; retention is a campus-wide concern, and requires a coordinated, integrated effort to achieve it; student concern is a poor substitute for hard data and analytic planning; few traditional retention efforts are ever evaluated, and even fewer would have much to show if they were; any serious attempt to deal with the problem will incur comparably serious costs; and, finally, redirection of existing resources is probably the only realistic alternative to fund retention efforts.

In more specific terms, the literature and studies to data on student retention are full of impractical suggestions, interesting things to try if an institution ever finds the time or money. Several such lists have been produced within the CSUC, with predictable impacts. From the total range of things which could be done about attrition, only a small fraction have been tried, even fewer should be attempted, and fewer still can be implemented within a host of constraints. Despite its length, the list below represents the most feasible alternatives for the CSUC, based on the data and information available. The list is selective and representative rather than exhaustive; readers interested in a wider (and more exotic) array of options should consult Appendix P.

Primary Recommendations

1. Development of a systemwide retention data base and reporting system.

Alexander Astin has argued that University management information systems provide almost no information on students, except for simplistic data on enrollments and majors. He suggests that Universities scrap their resource-oriented management systems and substitute ones that provide information on student development. Specifically, he would like to see data on the amount of time and the physical and psychological energy that the student invests in the academic experience, especially on-campus activities. This would also include data on student perceptions and evaluations of campus facilities and services.

Although the ERSS and ERSG data files do not contain such survey information, the development of software to merge these files (ERSC) represented a major technical advance in the study of attrition and retention in the CSUC system. Appendix Q contains useful information for campuses wishing to acquire access to the files and software to perform local analyses.

It is with great reluctance that yet another major data collection effort and reporting system be recommended to the CSUC. Some of the current data bases are improperly maintained and poorly utilized, and there is certainly no assurance that an "attrition early warning system" will be properly administered or received. Yet, the attrition problem is serious enough, and the enrollment outlook threatening enough, to warrant such a recommendation. Here are some major assumptions about and suggestions for the system:

1) It should consist primarily of motivational (i.e., survey) data elements rather than additional demographic and academic indicators. The student should be asked about his goals, commitments, expectations, interests, and so forth. The survey should be part of the required information for admission and registration and, operationally, could be added to the student's record in the ERSS data base. Like ERSS, the system should be a mandatory, standardized data collection effort, maintained and coordinated by the appropriate division(s) in the Chancellor's Office. The individual campus could tie the survey to the normal registration process. Periodic reports and analyses would be prepared by the Chancellor's Office and sent to the campuses for review and action.

2) Resources to support this system could come from one of two sources: through the change of program channel in the budgetary process, or through more focused and efficient use of current resources. If the former is not feasible, a review committee should be appointed to evaluate the need for and use of current systemwide data bases. From its report, procedures could be developed to support the new system by consolidating or eliminating old ones.

2. **Establishment of campus recruitment and retention offices.**

Although a "marketing orientation" is probably identified more closely with recruitment than retention, it obviously serves both functions. Higher education management is increasingly urged to think in terms of the "4P's" (product, place, pricing, and promotion); of market segmentation, market share, consumer needs, and marketing mixes; of institutional positioning, imagery, and promoting educational benefits as one would any other non-profit, service industry. The materials in Appendix R attest to the commercial potential of this approach.

Taken in its most literal (and crass) terms, there are any number of logical and conceptual problems with a "pure" marketing approach to higher education. But in another sense, a marketing orientation to recruitment and retention offers the most logical model on which to build and maintain enrollments. It assumes that enrollment planning and program control proceed from a base of intensive research and analysis, both primary and secondary. It requires that objections be stated and strategies developed according to systematic environmental data, whether aggregate or survey. It demands quantification and rigor in place of public relations and social services. For these and other reasons, universities require a new type of research and evaluation unit, and one more narrowly focused and policy-oriented than either admissions or offices of institutional research. research.

The recruitment and retention activities of each campus in the system should be institutionalized and integrated in a single office reporting to the president. The structural and functional configuration of the office could be expected to vary by campus, but it must be given sufficient power and prestige to affect policy-level decisions. The major responsibilities of such an office should be to:

1) Serve as an ongoing evaluation unit and monitor of current recruitment and retention programs, including advising, orientation, extracurricular activities, and all outreach, public relations, and marketing efforts.

2) Conduct long-range enrollment planning studies through systematic marketing research.

3) Develop and implement institutional recruitment and retention strategies based on findings in the program evaluations, marketing research, and student surveys.

4) Resources to support this activity should be drawn from existing recruitment and retention functions on campus. Obviously, considerable changes will be required in job tasks and personnel.

3. Provide resources and incentives for faculty advising.

The "advising problem" easily dominates all discussions of student retention. The presumed importance of the issue is exceeded only by the frustrations about it. Only a handful of campus administrators expressed any degree of satisfaction about academic advising, and all conceded that it would probably always be a serious problem. Most of the "blame" is reserved traditionally for the faculty, who presumably are the only ones with the technical expertise, knowledge, judgment, and responsibility (legal and moral) to do anything about it. Although peer counseling, advisement centers, media approaches, and so forth offer alternative strategies, all evidence suggests that "one-to-one" student-faculty contact (formal and informal) is one of the most powerful influences on retention.

The part-time status of many CSUC students complicates the issue of advising; so, too, does the part-time status (literally and figuratively) of many faculty. A report based on a comprehensive survey of faculty advising in 1978 had this to say about systemwide policies governing advisement responsibilities of faculty:

> The workload of a full-time faculty member consists of two components. The first is twelve weighted teaching units of direct instructional assignments (equivalent to thirty-six hours per week).
>
> The second component of three WTU equivalencies includes such activities as student advisement, curriculum development and improvements, and committee assignments (4 to 9 hours per week).

While there is a general understanding that it is the responsibility of each full-time faculty member to meet with students outside of the classroom and engage as needed in academic advisement, system policy does not specifically require this activity. More explicit understandings, if they exist, are a matter of campus policy.

System policy does not explicity refer to the academic advisement resonsibilities of part-time faculty and there is no regular workload provision for such activity.

System policy does permit workload credit for advising (beyond that included in the three WTU equivalencies which make up the fifteen unit load) under specified conditions. A faculty member may be assigned up to three WTUs (four WTUs for individuals whose course assignments would each normally generate four WTUs) for "an exceptionally heavy indirect instructional activity." Advising responsibilities qualify under any of the following conditions:

a. An excessive advising load due to a relatively high proportion of part-time faculty in the department.
b. A greater than normal share of departmental or school advising responsibilities.
c. Service as departmental graduate advisor.

Because assigned units are charged against overall faculty workload, the value of this workload provision (assigned time) for advisement is limited. Availability of assigned time consequently varies with enrollment pressures and other priorities.

If faculty advising is as important as everyone assumes, it should receive commensurate levels of support in terms of tangible and direct benefits to faculty.

More assigned time, more pay, explicit recognition of advising in the RPT process, greater teaching flexibility, and fewer committee assignments are but a few of the more obvious incentives to induce faculty interest and involvement in advising. To stimulate awareness and increase advising skills and information, resources for workshops and training seminars must be provided. The simple fact is that until the system and individual campuses are willing to match faculty responsibilities with specific faculty rewards in this area, advising will remain in the same state as today and in the past.

4. Programs for simulating residential environments for commuter campuses.

This recommendation is intended primarily to serve younger students on such campuses. The major consideration is one of campus involvement, defined simply as the total amount of time the student spends on campus. The student should be offered incentives of an academic, social, and financial nature to spend more time on campus. The specific strategies and target audiences should be determined by results of the student surveys proposed above, and periodic studies of the student population employing environmental assessment scales.

5. Organizational and procedural reforms.

Two organizational and procedural reforms could have a positive impact on student retention, especially on large, commuter campuses. The first addresses constraints on students' time, the second is linked to problems of scale and human relations.

1) Reform the class scheduling process to reflect student needs rather than faculty preferences. This can be attempted through centralization of classroom space allocations; block scheduling policies; more systematic use of demand data from CAR (computer-assisted registration); and greater review and coordination of scheduling by school deans.

2) Instill greater sensitivity to student needs through staff development workshops and incentive programs.

Secondary Recommendations

1) Appoint a special systemwide task force to study the enrollment problems of small, rural, commuter campuses, with special attention to solutions requiring state political approval.

2) Increase student fees to provide for more personalized student counseling and advising of high-risk students.

3) Achieve greater integration of academic, psychological, and career advising through centralization and evaluation of current activities on each campus.

4) Conduct a systematic evaluation of the effects of quarter systems on student attrition.

5) Establish a retention network of large, urban, commuter campuses to develop common, integrated approaches to common retention problems.

BIBLIOGRAPHIC NOTES

1) The items with "ED" numbers refer to the ERIC document retrieval system.

2) The references marked with an asterisk (*) are the most useful and important statements on student attrition and retention.

BIBLIOGRAPHY

Abel, W.H., "Attrition and the Student Who is Certain." Personnel and Guidance Journal, 1966: 1024-45.

Aiken, J., "A Comparison of Junior College Withdrawees." 1968: EDO23389.

Aiken, L.R., "The Prediction of Academic Success and Early Attrition by Means of a Multiple Choice Biographical Inventory." American Educational Research Journal, 1964: 127-135.

Alfert, E., "Housing Selection, Need, Satisfaction and Dropout from College." Psychological Reports, 1966: 183.

Alfred, R., "1971-72 Student Attrition: Antecedent and Consequent Factors." EDO70435.

Alfred, R., "Student Attrition: Strategies for Action," Community College Conference Proceedings, Kansas City Metropolitan Junior College District (May 1973).

Altma, R., "The Effect of Rank in Class and Size of High School on the Academic Achievement of Central Michigan College Seniors, Class of 1957." Journal of Educational Research, 52: 307-09.

Ammons, R.M., "Academic Persistence of Some Students at St. Petersburg Junior College." EDO63929.

Anderson, E., "A Retention Design Applied to An Equal Opportunity Program" in Noel (ed), Reducing the Dropout Rate, 37-46.

Anderson, E.C., "An Equal Opportunity Program Retention Design." College and University, 1976: 692-99.

Anderson, J.F., Mathieu, D.T., and Krueger, A.H., "Non-Matriculation: A Follow-Up Study of Prospective College Students Who Were Accepted for Admission but Did Not Enroll." National ACAC Journal, 1973. 18: 16-20.

Anderson, L.O., "Small Rural High Schools and College Completion." Journal of College Student Personnel, 1974: 191-93.

Angers, W.P., "Achievement Motivation in College and Prevention of Dropouts." Catholic Education Review, 1961: 59, 34-39.

Astin, A. W., and Holland, J.L., "The Environmental Assessment Technique: A Way to Measure College Environments." Journal of Educational Psychology, 1961: 308-16.

Astin, A.W., "An Empirical Characterization of Higher Educational Institutions." Journal of Educational Psychology, 1962: 224-235.

Astin, A.W., "Personal and Environmental Factors Associated with College Dropouts Among High Aptitude Students." Journal of Educational Psychology, 1964: 219-227.

Astin, A.W., Who Goes Where to College? Chicago: Science Research Associates, 1965.

Astin, A. et al., "National Norms for Entering College Freshmen, Fall 1966." ACE Research Reports, 2.

Astin, A.W., "The College Environment." Washington, D.C., American Council on Education, 1968.

Astin, A. and Panos, R., "Attrition Among College Students." American Educational Research Journal (January) 57-72.

Astin, A.W., and Lee, C.B.T., The Invisible Colleges. New York: McGraw-Hill, 1971.

Astin, A.W., Predicting Academic Performance in College. New York: Free Press, 1971.

Astin, A.W., "The Measured Effects of Higher Education." The Annals of the American Academy of Political and Social Science, 1972, 1-20.

Astin, A., "College Dropouts: A National Profile." ACE Research Reports, Washington, D.C.: American Council on Education, 1972.

Astin, A.W., "Student Persistence: Some Stay, Some Don't - Why?" College and University, 1973: 298-306.

Astin, A.W., "Impact of Dorm Living on Students." Educational Record, 1973: 204-210.

Astin, A. et al., "The American Freshmen: National Norms for Fall 1973." Los Angeles Cooperative Institutional Research Program, UCLA.

*Astin, A., Preventing Students From Dropping Out. San Francisco: Jossey-Bass, Inc. 1975.

Astin, A., Four Critical Years, San Francisco: Jossey-Bass, Inc., 1977.

Astin, H.S., "Educational Progress of Disadvantaged Students." Washington, D.C., Human Service Press, University Research Corporation.

Athanasiou, R., "Selection and Socialization: A Study of Engineering Student Attrition." Journal Educational Psychology, (April 1971).

Athey, I.J., and Trent, J.W., "Student Characteristics Associated with Varying College Attending Pattern." EDO3060.

Axmaker, L.W., "The Effect of Group Counseling on the Self-Concept, On the Motivation to Achieve and On the Proportion of Dropouts Among Unselected Community College Students at Southwestern Oregon Community College." Dissertation Abstracts International, 30 (10-A): 4214.

Baber, B.B., Jr., and Caple, R.B., "Educational Opportunity Grant Students: Persisters and Nonpersisters." The Journal of College Student Personnel, 1970: 115-19.

Bard, B., "College Students: Why They Drop Out." The Education Digest, (March): 18-21.

Barger, B. and Hall, E., "Personality Patterns and Achievement in College." Educational and Psychological Measurement, 24: 339-46.

Barger, B. and Hall, E., "A Report on Exit Interviews Conducted by the Offices of the Deans of Men and Women: Students Withdrawing During the Winter Trimester." University of Florida, Mental Health Project Bulletin No. 13 (July, 1964).

Barger, B. and Hall, E., "Interaction of Ability Levels and Socioeconomic Variables in the Prediction of College Dropouts and Grade Achievement." Educational and Psychological Measurement, 25 (1965): 501-508.

Barger, B. and Hall, E., "Time of Dropout as a Variable in the Study of College Attrition." College and University, 40 (1965): 84-88.

*Barton, D.W. (ed.) Marketing Higher Education. New Directions for Higher Education; San Francisco: Jossey-Bass, Inc., 1978.

Baxter, C.W., "Relationships Between Organizational Variables and Student Withdrawal Rates in Junior Colleges." Dissertation Abstracts, 28 (1968): 3914-15.

Bayer, A.E., "The College Dropout: Factors Affecting Senior College Completion." Sociology of Education, (1968): 305-16.

Bayer, A.E., "Marriage Plans and Educational Aspirations." American Journal of Sociology, (September, 1969): 239-44.

Bayer, A.E., and Boruch, R.F., "Black and White Freshman Entering Four-Year Colleges." Educational Record, (Winter 1969).

Bayer, A.E., Royer, J.T., and Webb, R.M., "Four Years After College Entry." ACE Research Reports, Washington, D.C.: American Council on Education, (1973).

Beahan, L.T., "Initial Psychiatric Interviews and the Dropout Rate of College Students." The Journal of the American College Health Association, 14 (April 1966): 305-08.

Bean, A., "Personality Measures as Multiple Moderators in the Prediction of College Student Attrition." Dissertation Abstracts International, 32 (1971): 229.

Bean, A.G., & Covert, R.W., "Prediction of College Persistence, Withdrawal, and Academic Dismissal: A Discriminant Analysis." Educational and Psychological Measurement, (1973): 407-11.

Bemis, J.F., "A Study of Undergraduate Students Who Voluntarily Withdrew from the University of Washington." Unpublished doctoral dissertation, University of Washington, (1962).

Berls, R., "Higher Education Opportunity and Achievement in the United States." In Joint Economic Committee, The Economics and Financing of Higher Education in the United States, Washington, D.C.: Congress of the United States, (1969).

Beyer, D.E., "An Analysis of Selected Intellectual and Non-Intellectual Characteristics of Dropouts and Survivors in a Private College." Dissertation Abstracts International, 32 (1972): 3773.

Blai, B., Jr., "First to Second Year Student Attrition Among Junior Colleges." Scientia Paedagogica Experimentalis, 8 (1971): 8-15.

Blai, B., Jr., "Two Year College Dropouts - Why Do They Leave?" ED058879 (1972).

Blanchfield, W.C., "College Dropout Identification: A Case Study." The Journal of Experimental Education, (1971): 1-4.

Bogue, E., "A Factor Study of Biographical Characteristics Associated with Non-Persisting Freshmen Students." Dissertation Abstracts, 29 (1969): 2914.

Borup, J.H., "A Synthesis of Research on College Dropouts and Guidelines for the Future." Talus, 1 (Sept. 1968), 21-36.

Bossen, D., "A Follow-Up Study of the Junior College Withdrawal Student." Dissertation Abstracts, 29 (1968): 1418.

Bossen, D.A. & Burnett, C.W., "What Happens to the Withdrawal Student?" Junior College Journal, 40 (1970): 30-32.

*Bower, C. & Myers, E., "A Manual for Conducting Student Attrition Studies in Institutions of Post-secondary Education." Boulder, Col.: National Center for Higher Education Management Systems at Western Interstate Commission for Higher Education, (1979).

Bowman, D.L., "Reducing Freshman Attrition and Preparing Teachers for the Disadvantaged." ED051112, (1970).

Bowman, D., & Campbell, L., "Attack on High Attrition of University Under-Achievers." Journal of Teacher Education, 22 (1971): 210-14.

Boyer, E.L. & Michael, W.B., "Outcomes of College: Early Withdrawal from College." Review of Educational Research, 35 (1965): 277-79.

Bragg, E.W., "A Study of Student Withdrawal at 'W.U.'" Journal of Educational Psychology, (1956): 199-202.

Brawer, F.B., New Perspectives on Personality Development in College Students, San Francisco: Jossey-Bass, Inc., 1973.

Brickman, W.W., "College Enrollments and Dropouts." Sch. & Soc. (January 1965).

Brown, W.F., "Student-to-Student Counseling for Academic Adjustment." Personnel and Guidance Journal, (1965): 811-17.

Brown, W.F., Haslam, W.L., Wehe, N.O., & Zunker, V.G., "Effectiveness of Student-to-Student Counseling on the Academic Adjustment of Potential College Dropouts." Journal of Educational Psychology, (1971): 285-89.

Brown, F.G., "Identifying College Dropouts with Minnesota Counseling Inventory." Personnel and Guidance Journal, (1960): 280-82.

Bucklin, R., & Bucklin, M., "The Psychological Characteristics of the College Persister and Leaver: A Review." Washington, D.C.: Office of Education Report, (1970): HE-002-154. (ERIC Document Reproduction Service No. ED 049-709).

Campbell, A. & Eckerman, W.C., "Public Concepts of the Values and Costs of Higher Education." Ann Arbor Survey Research Center, (1964).

Capper, V.L., "The Effects of Two Types of Reinforcement on Dropouts, Class Attendance, and Class Achievement in a Junior College, Continuing Education Mathematics Program." Dissertation Abstracts International, 30 (1969): 2413-14.

Carew, D.K., "A Comparison of Activities, Social Acceptance, and Scholastic Achievement of Men Students." Personnel and Guidance Journal, (1957): 121-24.

Carlson, S.J., & Wegner, K.W., "College Dropouts." Phi Delta Kappan, 46 (1965): 325-27.

Carnegie Commission on Higher Education, More Time, Less Options, New York: McGraw-Hill, 1972.

Caskey, O.L. "Freshmen Dropouts and Returnees, Part 1. A Descriptive Study." University Counseling Service Report (1964), No. 384. Cited in L.M. Marsh College Dropouts-A Review. Personnel and Guidance Journal (1966): 475-481.

Center for Research and Development in Higher Education, "On Creativity." The Research Reporter. University of California, Berkeley, (1967): 1-4.

Centra, J. & Rick, D., "College Environments and Student Achievement." American Educational Research Journal (1971): 623-634.

Cervantes, L.F., & Husted, G.P., "Dropout: Causes and Cures." Review in Personnel and Guidance Journal (May 1970).

Chambers, J.L. et al., "Need Patterns and Abilities of College Dropouts." Educational and Psychological Measurement (Summer 1965): 509-18.

Chase, C.I., "The University Freshman Dropout." Indiana Studies in Prediction, No. 6 Bureau of Educational Studies and Testing, Indiana University (1965).

Chase, C.I., "College Dropout: His High School Prologues; Indiana University." National Association of Secondary School Principals Bulletin, 54 (1970): 66-71.

Chickering, A.W., "Institutional Differences and Student Characteristics." Journal of Amerson College Health Association, (December 1966): 168-81.

Chickering, A.W., Education and Identity. San Francisco: Jossey-Bass, Inc., 1969.

*Chickering, A.W., Commuting Versus Resident Students. San Francisco: Jossey-Bass, Inc., 1974.

Chickering, A.W. & Hannah, W., "Process of Withdrawal." Liberal Education, 55 (1969): 551-58.

Chickering, A.W. et al., "Research and Action." Third Annual Progress Report. Washington, D.C., Council for the Advancement of Small Colleges, (1968).

Clark, B., "The 'Cooling-Out' Function in Higher Education." American Journal of Sociology, 64 (1960): 569-76.

Cliff, N., "An Investigation of the Factors Associated with Dropout and Transfer by Scholarship Applicants." Research Bulletin RB-62-13, Princeton, N.J.: Educational Testing Service, (1962).

Cohen, M., "The Relationship Among Student Characteristics, Changed Instructional Practices and Student Attrition in Junior College." Final Report. EDO32074, (1969).

Cohen, M. & Brawer, B., "Student Characteristics: Personality and Dropout Propensity." EDO 38130, (1970).

Cohen, M. et al., "Selected Personality Correlates of Junior College Dropouts and Persisters." EDO27883, (1969).

Cohen, A., & Brawer, F., "Student Characteristics: Personality and Dropout Propensity." Washington: ERIC Clearinghouse for Junior Colleges and American Association of Junior Colleges, (1970).

Coker, D., "Diversity of Intellective and Non-intellective Characteristics Between Persisting Students and Non-persisting Students Among Campuses." Washington, D.C.: Office of Education Report, (1968) BR-6-2728. (ERIC Document Reproduction Service No. ED 033 645).

Colberg, D., "Why Students Fail: A Student Symposium." Library College Journal, 4 (1971) 26-57.

"College Applicants, Entrants, Dropouts." U.S. Office of Education Publication, United States, Office of Education (OE-54034), 1965.

"College Dropout and Talent Utilization; Conference at Princeton University." School and Society, 93 (1965).

College Entrance Examination Board, "A Survey of the Admission, Enrollment and Retention of Black Students at Predominantly White Colleges in the South." Project Opportunity Report No. 2, (1973): Southern Regional Office.

Congdon, J.D., "Personality Factors and Capacity to Meet Curriculum Demands." Personnel and Guidance Journal, 42 (1964): 17-31.

Conner, J.D., "Relationship Between College Environmental Press and Freshman Attrition at Southern Methodist University." College and University, 43 (1968): 265-73.

Cope, R.G., "Economic Variables and the Prediction of College Attendance and Achievement." College and University, 41 (1966): 35-40.

Cope, R.G., "Differential Characteristics of Entering Freshmen Environmental Presses and Attrition at a Liberal Arts College." Unpublished doctoral dissertation, University of Michigan, (1967).

Cope, R.G., "Academic Performance in Higher Education: A Review and Critique of the Literature." (Draft) Office of Institutional Studies, University of Massachusetts, (December 1968).

Cope, R.G., "Limitations of Attrition Rates and Causes Given for Dropping Out of College." Journal of College Student Personnel, (November 1968): 386-92.

Cope, R.G., "Selected Omnibus Personality Inventory Scales and Their Relationship to a College's Attrition." Educational and Psychological Measurement, 28 (1968): 599-603.

Cope, R.G., "College Press and Dropouts." EDO28467 (1969).

Cope, R.G., "Types of High Ability Dropouts Who Continue in College." North Central Association of Quarterly, 44 (1969): 253-56.

Cope, R.G., "Sex-Related Factors and Attrition Among College Women." Journal of the Association of Women Deans and Counselors, 33 (1970): 116-24.

Cope, R.G., "Are Students More Likely to Drop Out of Large Colleges?" College Student Journal, 6 (1972): 92-97.

Cope, R.G., & Hewitt, R.G., "Types of College Dropouts: An Environmental Press Approach." College Student Journal, 4 (September-October 1971): 46-51.

Cope, R.G. et al., "An Investigation of Entrance Characteristics Related to Types of College Dropouts." Final Report, EDO52749 (1971).

Cope, R.G., "Why Students Stay, Why They Leave." Noel (ed), Reducing the Dropout Rate, 1-12.

*Cope, R. & Hannah, W., Revolving College Doors: The Causes and Consequences of Dropping Out, Stopping Out, and Transferring, New York: Wiley, 1975.

Cowhig, J.D., "Why Do They Leave College?" School Review, (1963): 330-36.

Creager, J.A. et al., "National Norms for Entering College Freshmen Fall 1969." ACE Research Report, 4 (1969).

Crockett, D.S., "Academic Advising: Cornerstone of Student Retention," N. Noel (ed.) Reducing the Dropout Rate, 29-36.

Cullen, J.B., "Social Identity and Motivation." Psychological Reports, 33 (1973): 338.

Cummings, E.C., "Causes of Student Withdrawals at DePauw University." School and Society, 70 (1949): 152-53.

Dairymple, W., "College Dropout Phenomenon: Facts, Theories and Programs." NEA Journal, 56 (April 1967): 11-13.

Dalton, S. et al., "Relationship of Underachievement and College Attrition." Journal of College Student Personnel, 18 (November 1977): 501-5.

Daniel, K.B., "Study of College Dropouts with Respect to Academic and Personality Variables." Journal of Educational Research, 61 (January 1967): 230-35.

Darley, J.G., "Promise and Performance." Berkeley: Center for the Study of Higher Education, University of California, (1961).

Davis, B.H., "The Community Junior College Experience as Perceived by Students Who Have Withdrawn." EDO46386, (1970).

Davis, H., "Incidence and Type of Psychiatric Disturbance in Dropouts from a State University." Journal of the American College Health Association, 49 (1971): 241-246.

Davis, P.H., "Trustees, Take Heed of Attrition." Liberal Education, (1962): 479-86.

Delworth, U., Moore, M., Millick, J. & Leone, P., "Training Student Volunteers."

Demitroff, J.F., "Student Persistence." Personnel and Guidance Journal, (1974): 57-61. College and University, (1974): 553-67.

Demos, G.D., "Analysis of College Dropouts--Some Manifest and Covert Reasons." Personnel and Guidance Journal, (1968): 681-84.

DeVecchio, R.C., "Characteristics of Nonreturning Community College Freshmen." Journal of College Student Personnel, (1972): 429-32.

Di Cesare, A.C., Sedlacek, W.E., & Brooks, G.C., Jr., "Nonintellectual Correlates of Black Student Attrition." The Journal of College Student Personnel, (1972): 319-24.

Dole, A.A., "Reported Determinants of Educational Choice." Personnel and Guidance Journal, (1964): 564-71.

Dole, A.A., & Weiss, D.J., "Correlates of the Reported Determinants of College Attendance." Journal of Counseling Psychology, (1968): 451-58.

Dollar, R.J., "Interpersonal Values and College Persistence." Journal of Student Personnel, (1970): 200-202.

Douvan, E., & Kay, C., Why People Go to College: Motivational Factors. In N. Sanford (Ed.), College and Character. New York: Wiley, 1964.

Drasgow, J. & McKenzie, J., "College Transcripts, Graduation, and the MMPI." Journal of Counseling Psychology, (1958): 125-28.

Dresser, D.L., "The Relationship Between Personality Needs, College Expectations, Environmental Press and Unergraduate Attrition in a Univesity College of Arts."Dissertation Abstracts Inter., (1972): 4979.

Dryhand, D., "Expectations Concerning the College Experience as they Relate to the Academic Achievement and Persistence of Freshmen." Dissertation Abstracts International, (1969): 2373.

Durkheim, E., Suicide (J. Spaulding & G. Simpson, trans). Glencoe: The Free Press, 1961.

Dvorak, E.J., "Educational and Personality Characteristics of Smokers and Nonsmokers Among University Freshmen." The Journal of the American College Health Association, (1967): 80-84.

Dyer, H., "School Factors and Equal Educational Opportunity." Harvard Educational Review, (1968): 38-56.

Dysinger, W.S., & Hackman, J.R., "Attrition in the Liberal Arts College." EDO10622, (1966).

Eagle, N., "Dropout Prediction of an Urban Community College Following Open Admissions." Paper read at the American Educational Research Association, New Orleans, (February 1973).

Eckland, B.K., "A Source of Error in College Attrition Studies." Sociology of Education, (1964): 60-72.

Eckland, B.K., "College Dropouts Who Came Back." Harvard Educational Review, 34 (1964): 402-20.

Eckland, B.K., "Social Class and College Graduation: Some Misconceptions Corrected." American Journal of Sociology, (1964): 60-72.

Elias, E.M., & Lindsay, C.A., "The Role of Intellective Variables in Achievement and Attrition of Associate Degree Students at the York Campus for the Years 1959-1963." EDO30406, (1968).

Ellis, V., "Students Who Seek Psychiatric Help." In J. Katz (Ed.) Growth and Constraint in College Students: A Study of the Varieties of Psychological Development. Stanford, Calif.: Institute for the Study of Human Problems, Stanford University, (1967).

Elton, C. & Rose, H., "A Longitudinal Study of the Vocationally Undecided Male Student." Journal of Vocational Behavior, (1971): 85-92.

Evans, T.D., & Yanchar, B.J., "University's Last Chance: the Exit Interview." NASPA Journal (January 1971).

Farine, A., "Demographic and Social Accounting: A Follow-Up on the Withdrawals from Quebec Colleges." Paper read at the American Educational Research Association, New Orleans, (February 1973).

Farnsworth, D.S., "Some Non-Academic Causes of Success and Failure in College Students." College Admissions, (1955), 72-78.

Farnsworth, D.S., Mental Health in Colleges and Universities. Cambridge: Harvard University Press, 1947.

Faunce, P.S., "Personality Characteristics and Vocational Interests Related to the College Persistence of Academically Gifted Women." Doctoral dissertation, University of Minnesota, (1966).

Faunce, P.S., "Personality Characteristics and Vocational Interests Related to the College Persistence of Academically Gifted Women." Journal of Counseling Psychology, (1968): 31.

Fenske, R.H., & Scott, C.S., "The Changing Profile of College Students." American Association for Higher Education, Research Report No. 10, (1973).

Fensemacher, W., "College Dropouts: Theories and Research Findings." In R. Cope (Ed.), Tomorrow's Imperatives Today, Seattle: Association for Institutional Research (1973).

Fetters, W.B., "National Longitudinal Study: Withdrawal from Institutions of Higher Education." National Center for Educational Statistics (DHEW), Washington, D.C., (1977).

Fisher, J.L., "College Retention from a Presidential Perspective." Noel (Ed), Reducing the Dropout Rate, 65-76.

Fleisch, S. & Carson, E.R., "Boston University Class of 1970 Dropout Rate." Interim Report No. 1, Boston, Mass: Boston University, (1968).

Folger, J.K. et al., Human Resource and Higher Education. New York: Russell Sage, 1970.

Foote, N.N., "Identification as the Basis for a Theory of Motivation." American Sociological Review (1951): 14-21.

Ford, D.H. & Urban, H.B., "College Dropouts: Success or Failures?" Educational Record (1965): 77-92.

Forest, D.V., "High School Underachievers in College." Journal of Educational Research, 61 (December 1962): 147-150.

Gable, R.L., "A Study of the Student Drop-Out Problem at Miami University." Dissertation Abstracts, (1957): 16.

Gadzella, B.M., "Factors Influencing Students to Withdraw from College." College Student Survey, (1967): 55-60.

Gadzella, B.M., "Characteristics of College Returnees." College Student Survey, (1968): 60-64.

Gadzella, B.M. & Bentall, "Differences in High School Academic Achievements and Mental Abilities of College Graduates and College Dropouts." College and University, 42 (Spring 1967): 351-56.

Gamson, Z., "Utilitarian and Normative Orientation Toward Education." Sociology of Education, (1966): 46-73.

Garner, W.C., "The Crisis Intervention Technique with Potential College Dropouts." Personnel and Guidance Journal, (1970): 552-60.

Gekowski, N. & Schwartz, S., "Student Mortality and Related Factors." Journal of Educational Research. (1961): 192-94.

Gelso, J. & Rowell, D., "Academic Adjustment and the Persistence of Students with Marginal Academic Potential." Journal of Counseling Psychology. (1967): 478-81.

Gerntz, H.G., "The Relationship of Certain Personal and Socio-Economic Data to Success of Resident Freshmen Enrolled in the College of Science, Literature and the Arts at the University of Minnesota." Dissertation Abstracts, 2366, (1956).

Glasser, W., Schools Without Failure. New York: Harper & Row, 1969.

Glennen, R.E., "Intrusive College Counseling." College Student Journal. (1975) 2-4.

Goble, R., "A Study of the Student Dropout Problem at Miami University." Unpublished doctoral dissertation, Indiana University, (1957).

Goetz, W. & Leach, D., "Disappearing Student." Personnel and Guidance Journal, 45 (1967): 883-87.

Gold, B.K., "Academic Performance of Financial Aid Recipients, 1969-1970." EDO45080, (1970).

Goldsen, R.K. et al., What College Students Think. Princeton, N.J.: Van Nostrand-Reinhold, 1960.

Gonyea, G.B., "Follow-Up of Above Average Students Who Leave the University of Texas." Research Report No. 16, The University of Texas Testing and Counseling Center, (March 1964).

Gossman, C.S., Nobbe, C.E., Patricelli, T.J., Schmid, C.F., & Steahr, T.E., Migration of College and University Students in the United States. Seattle: Unviersity of Washington Press, 1968.

Grace, H.A., "Personality Factors and College Attrition." Peabody Journal of Higher Education, (1957): 36-40.

Grande, P.P. & Simmons, J.B., "Personal Values and Academic Performance Among Engineering Students." The Personnel and Guidance Journal, (1967): 585-88.

Greenfield, L.B., "Attrition Among First Semester Engineering Freshmen." The Personnel and Guidance Journal, 52 (June 1964): 1003-1010.

Greive, D.E., "A Study of Student Attrition, Part I." Cuyahoga Community College, Cleveland, Ohio, EDO38976 (1970).

Gunderson, M., "Retention of Trainees: A Study with Dichotomous Dependent Variables." Journal of Econometrics (in press).

Gurin, G. et al., "Characteristics of Entering Freshmen Related to Attrition in the Literary College of a Large State University." Final Report, University of Michigan, Project No. 1938, U.S. Office of Education (1968).

Gustavus, T., "Successful Students, Readmitted Students, and Dropouts." Social Science Quarterly, 53 (1972): 136-44.

Haagen, C.H., Venturing Beyond the Campus: Students Who Leave College. Middletown, Conn.: Wesleyan University Press, 1977.

Hackman, J.R., & Dysinger, W.S., "Reactions to College Withdrawal." Journal of Experimental Education, 39 (1970): 23-31.

Hackman, J.R. & Dysinger, W.S., "Research Notes: Commitment to College as a Factor in Student Attrition." Sociology of Education, 43 (1970): 311-24.

Hahn, R.W., "In Defense of Dropping Out: A Forthright Refutation of Community College Dogma." Community College Review, 1 (1974): 35-40.

Halladay, D.W. & Andrew, D.C., "Dropouts from Arkansas College." The Personnel and Guidance Journal, 37 (November 1958): 212-13.

Hanks, C.J., "A Comparative Study of Factors Related to Retention and Withdrawal of Freshmen Students at the University of Arkansas." Dissertation Abstracts, 14 (1954): 1171.

Hannah, W., "Differences Between Drop-Outs and Stay-Ins at Entrance--1965 Freshmen." Project on Student Development, Plainfield, Vt., (August 1967).

Hannah, W., "Dropout-Stayin Personality Differentials and College Environments." (Dissertation). Ann Arbor: University Microfilms, (1969).

Hannah, W., "The Leaver's View." EDO29628, (1969).

Hannah, W., "Withdrawal from College." Journal of College Personnel, 10 (1969): 397-402.

Hannah, W., "Collaborative Action with Outside Resource." Institutional Research and Communication in Higher Education. Tallahassee, Florida: Association Institutional Research, (1970).

Hannah, W., "Personality Differentials Between Lower Division Dropouts and Stay-Ins." Journal of Student Personnel, 12 (1971): 16-19.

Hannah, W. & McCormick, J., Report on College Attrition. Plainfield, Vermont: Project on Student Development, Goddard College, (1970).

Hansmeir, T.W., "Factors Related to the Success After Readmission of College Students Academically Dismissed." College and University 40 (Winter 1965): 194-202.

Hanson, G. & Taylor, R., "Interaction of Ability and Personality: Another Look at the Drop-Out Problem in an Institute of Technology." Journal of Counseling Psychology, 17 (1970): 540-45.

Hardie, V.S., & Anderson, J.R., "College Students: A Revealing Comprehensive Seven Year Study of 1106 College Freshmen. Attrition, Graduation, and Follow-Up, Clemson University." EDO55300 (1971).

Harvey, J., "Preventing College Dropouts: A Review." Currents, 3 (November 1970): 1-4.

Hedley, W., "Freshmen Survival and Attrition at a Small, Private Liberal Arts College: A Discriminant Analysis of Intellectual and Non-Intellectual Variables." Dissertation Abstracts, 29 (1968): 461.

Heilburn, A.B., "Personality Factors in College Dropouts." Journal of Applied Psychology, 49 (February): 1-6.

Hempel, C.G., Typological Methods in the Social Sciences. In Natanson, (Ed.), Philosophy of the Social Sciences: A Reader. New York: Random House, 1963.

Hendlin, H., "The Psychodynamics of Flunking Out." Journal of Nervous and Mental Disease. (August 1972): 131-143.

Hessel, W., "A Study of the Relationships of the Omnibus Personality Inventory and College Performance." Unpublished manuscript. University of California, Berkeley, Center for the Study of Higher Education. (1964).

Hill, A.H., "Longitudinal Study of Attrition Among High Aptitude College Students." Journal of Educational Research, 60 (December 1966): 166-73.

Hillery, N.C., "Maintaining Enrollments Through Career Planning." Noel (ed), Reducing the Dropout Rate, 13-22.

Hirsch, S.J. & Keniston, K., "Psychological Issues in Talented College Dropouts." Psychiatry 33 (1970): 1-20.

Hitchcock, A.A., "September's Non-Arrivals." College and University, (1955): 301-312.

Hoffman, P.W., "A Comparative Study of Study Retention and Attrition at Manchester College." Dissertation Abstracts International, 32 (1971): 738.

Holmes, C.H., "Why They Left College." College and University, 34 (Spring 1959): 295-300.

Hood, A.B., "Certain Non-Intellectual Factors Related to Student Attrition at Cornell University." Dissertation Abstracts, (1957): 2919.

Horner, M.S., "Women's Will to Fail." Psychology Today, 3 (1969): 62.

Howard, J., "The Hippie College Dropout. Final Report." EDO27853, (1969).

Hoyt, D.P., "Size of High School and College Grades." Personnel and Guidance Journal, 37 (1959): 569-73.

Hoyt, D.P., "A Retrospective & Prospective Examination of Retention - Attrition Research." Noel (ed), Reducing the Dropout Rate, 77-86.

Huber, W.H., "Channeling Students for Greater Retention." College and University, 47 (1971): 19-29.

Hughes, H.G. et al., "A Follow-Up Study on Discontinuing Students at Grossmont College." EDO19085.

Iffert, R.E., "What Ought Colleges and Universities Do About Students Mortality." Current Issues in Higher Education, (1954): 170-180.

Iffert, R.E., "Study of College Student Retention and Withdrawal." College and University, 31 (1956): 435-37.

"Iffert, R.E., "Retention and Withdrawal of College Students." U.S. Office of Education Bulletin 1958, No. 1. Washington, D.C.: U.S. Government Printing Office, (1957).

Iffert, R.E. & Clarke, B.S., "College Applicants, Entrants, Dropouts." Office of Education, U.S. Department of Health, Education and Welfare, FS5-54034, (1965).

Iowa State University, "A Study of Student Persistence at the State University of Iowa, Iowa City." Office of the Registrar, (1959).

Irvine, D.W., "Graduation and Withdrawal: An Eight Year Follow-Up." College and University, 40 (1965): 32-40.

Irvine, D.W., "Multiple Prediction of College Graduation from Pre-Admission Data." The Journal of Experimental Education, 35 (Fall 1966): 84-89.

Ivey, E.A. et al., "Personality Record as a Predictor of a College Attrition: A Discrimination Analysis." College and University, 41 (1956): 199-205.

Jacobson, R.L., "Dropouts are Different." Chronicle of Higher Education, 17 (Oct. 1978), 6.

Jaffe, A.J. & Adams, W., "Academic and Socio-Economic Factors Related to Entrance and Retention at Two and Four Year Colleges in the Late 1960's." ED049679, (1970).

Jaffe, A.J. & Adams, W., "1970-1971 Technical Progress Report Follow-Up of Cross Section of 1965-1966 High School Seniors." Mimeograph, New York Bureau of Applied Social Research (1971).

Jaffe, A.J. & Adams, W., "Open Admissions and Academic Quality." Change, 11 (1971): 78.

Jaffe, A.J. & Adams, W., "1971-1972 Progress Report and Findings, Follow-Up of Cross Section of 1965-1966 High School Seniors and Related Higher Educational Materials." Mimeograph, New York Bureau of Applied Social Research, (1972).

Jaffe, A.J. & Adams, W., "Two Models of Open Enrollment." In Wilson and Mills, (eds.), Universal Higher Education: Costs, Benefits, Options. Washington, D.C.: American Council on Education (1972).

Jencks, C., "Social Stratification and Higher Education." Harvard Educational Review, 38 (1968): 277-316.

Jencks, C. & Riesman, D., The Academic Revolution, New York: Doubleday, 1968.

Jencks, C. et al., Inequality: A Reassessment of the Effect of Family and Schooling in America, New York: Basic Books, 1972.

Jervis, F.M. & Congdon, R.C., "Student and Faculty Perceptions of Educational Values." The American Psychologist, 13 (August 1958): 464-66.

Jex, F.B. & Merrill, R.M., "A Study in Persistence." Personnel and Guidance Journal, (1962): 762-69.

Johansson, C.B. & Rossman, J.E., "Persistence at a Liberal Arts College: A Replicated 5-Year Longitudinal Study." Journal of Counseling Psychology, 20 (1973): 1-9.

Johnson, D.E., "Personality Characteristics in Relation to College Persistence." Journal of Counseling Psychology, 17 (1970): 162-67.

Johnson, E., "A Comparison of Academically Successful and Unsuccessful College of Education Freshmen on Two Measures of Self." Dissertation Abstracts, 28 (1976): 1298.

Johnson, G.B., "Proposed Technique for Analysis of Drop-Outs at a State College." Journal of Educational Research, 47 (January 1954).

Jones, E.S., "The Probation Student: What He is Like and What Can Be Done About It." Journal of Educational Research, 49 (1955): 93-102.

Jones, G. & Dennison, J.D., "A Comparative Study of Persister and Non-Persister College Students." ED062975 (1972).

Jose, J.R., "Some Plain Talk on Retention by a College Dean." Noel (ed), Reducing the Dropout Rate, 57-64.

Kamens, D.H., "The College 'Charter' and College Size: Effects on Occupational Choice and College Attrition." Sociology of Education, (1971): 270-296.

Karabel, J., "Community Colleges and Social Stratification." Harvard Educational Review, (1972): 521-62.

Katz, J., & Stanford, N., Curriculum and Personality. In No. Sanford (Ed.) College and Character. New York: Wiley, 1964.

Kauffman, J.F., "Student Personnel Services: the Unsuccessful Student." Educational Record, 45 (Fall 1964): 363-65.

Kauffman, J.F., "Student Personnel Services: Some Questions and Recommendations." Educational Record, 45 (1964): 355-65.

Kegan, D.L., "Quality of Student Life and Financial Costs: The Cost of Social Isolation." Journal of College Student Personnel, 19 (January 1978): 55-58.

Kendall, M., "Those Who Failed." University Q, 18 (1964): 69-77.

Kesselman, J., Stopping Out: A Guide to Leaving College and Getting Back In. New York: M. Evans, 1976.

Knapp, R.H. & Goodrich, H.B., Origins of American Scientists. Chicago: University of Chicago Press, 1969.

Knapp, R.H. & Greenbaum, J.J., The Younger American Scholar. Chicago: University of Chicago Press, 1958.

Knop, E., "From a Symbolic - Interactionist Perspective: Some Notes on College Dropouts." Journal of Educational Research, 60 (July 1967): 450-52.

Kohen, A.I. et al., "Factors Affecting Individual Persistence Rates in Undergraduate College Programs." American Educational Research Journal, 15 (Spring 1978): 233-52.

Kooker, E. & Bellamy, R., "Some Background Differences Between College Graduates and Dropouts." Psychology, 6 (1969): 1-6.

Kooker, E. & Bellamy, R., "Some Psychometric Differences Between Graduates and Dropouts." Psychology, 6 (1969): 65-70.

Kopecek, R.J., "Freshmen Orientation Programs: A Comparison." Journal College Student Personnel, 12 (January 1971): 54-57.

Kosher, E.W., & Bellamy, R.Q., "Some Background Differences Between College Graduates and Dropouts." Psychology, (1969): 1-6.

Kowalski, C., The Impact of College on Persisting and Nonpersisting Students. New York: Philosophical Library, 1977.

Kramer, L.A. & Kramer, M.B., "The College Library and the Dropout." College and Research Libraries, (1968): 310-312.

Krebs, R. & Liberty, P., "A Comparative Study of Three Groups of Withdrawal Students on Ten Factor Variables Derived from a 36 Problem Self-Report Inventory." Austin: University of Texas, (1971). (ERIC Document Reproduction Service No. ED 052 690).

Kubie, L.S., "Various Aspects of the Dropout Problem." Journal of Nervous and Mental Disease, 141 (1965): 395-402.

Kunhart, W.E. & Roleder, G., "Counseling Techniques with Potential Dropout Students in Junior College." Journal of Counseling Psychology, (1964): 2.

Kuznik, A., "Reverse Transfers from University to Community College." Journal of College Student Personnel, 14 (May 1973): 250-53.

Landrith, H.F., "Prescription for Junior College Dropouts." School and Society, 99 (January 1971): 49-51.

Lanning, W., "Factors Related to College Student Persistence and Withdrawal." NASPA Journal, 15 (Fall 1977): 34-38.

Lansing, J.B., Lorimer, T., & Moriguchi, C., "How People Pay for College." Ann Arbor: Survey Research Center (1960).

Lavin, D.E., The Prediction of Academic Performance. New York: Russell Sage Foundation, 1965.

Lavin, D.E., "Student Retention and Graduation at the City University of New York: September 1970 Enrollees Through Seven Semesters." Mimeograph, Office of Research, (August 1974).

[illegible], J.T., "A Study of Persisters and Dropouts in the Secretarial Science Program at Miami Dade [illegible]ollege." Doctoral dissertation, University of Miami, (1971).

[illegible], A. [illegible] Study of Students Who Withdrew from College During Their Second, Third or Fourth [illegible] Doctoral dissertation, University of Oregon, (1965).

[illegible], O.T., "The Benefit Crisis in Higher Education." Washington, D.C.: American Association for [illegible]duc[illegible]n, (1974).

Levenson, E. & [illegible] M., "A Demonstration Clinic for College Dropouts." College Health, 12 (1964): 382-91.

Lichter, S.O. et al., "Dropouts." Review in Child Welfare, (October 1969).

Lindsay, N.S., "Where Did You Go? Out!" Office of Instructional Research and Evaluation. Mimeograph. Harvard University (1974).

Lins, L.J. & Abell, A.P., "Attendance Patterns of Fall 1958 New Freshmen for Twelve Semesters After Entrance for the University of Wisconsin, Madison Campus." Madison: University of Wisconsin, (1965): 1-31.

Lins, L.J. & Abell, A.P., "Followup of Fall 1958 Madison Campus New Freshmen Who Had Left the Madison Campus and Who Had Not Received A Degree from the Madison Campus Within Twelve Semesters After Entrance." Madison: University of Wisconsin, (1966): 1-25.

Lins, L.J., Abell, A.P. & Hutchins, H.C., "Relative Usefulness in Predicting Academic Success of the ACT, the SAT, and Some Other Variables." Journal of Experimental Education, 35 (Winter 1966): 1-29.

Lins, L.J. & Pitt, H., "The Staying Power and Rate of Progress of University of Wisconsin Freshmen." College and University, (1953): 86-99.

Little, J.K., "The Persistence of Academically Talented Youth In University Studies." Educational Record (June 1959): 237-41.

Locke, C., "Small Group Counseling Compared with Freshmen Orientation Classes in Reducing Attrition of Freshman Junior College Students." Dissertation Abstracts International, 31 (1970): 1576.

Lucas, J.A., "Follow-Up Study of 1969 and 1971 Alumni." Office of Planning and Research, William Rainey Harper College, (March 1974).

Mack, F., "Predicting College Persistence for Educational Opportunity Students." Psychology, 10 (February 1973): 14-28.

Malloy, J., "An Investigation of Scholastic Over-and Under-Achievement Among Female College Freshmen." Journal of Counseling Psychology, (1954): 260-63.

Margolis, J.D., "Non-Dropout Problem." Journal of Higher Education, 40 (May 1969): 394-97.

Marks, E., "Student Perceptions of College Persistence and Their Intellective, Personality, and Performance Correlates." Journal of Educational Psychology, 58 (1967): 210-221.

Marsh, L.M., "College Dropouts--A Review." Personnel and Guidance Journal, 44 (1966): 475-81.

Maudal, G.R., Butcher, J.M. & Mauger, P.A., "A Multi-variate Study of Personality and Academic Factors in College Attrition." Journal of Counseling Psychology, 21, (1974): 560-67.

Max, P., "How Many Graduate?" College and University, 45 (1969): 63-76.

McGuire, D.C., "Why Undergraduate Music Students Withdraw." Music Educators Journal, (April 1965).

McMammon, W., Jr., "The Use of Non-Intellectual Variables in Predicting Attrition of Academically Capable Students at the University of Tennessee." Unpublished doctoral dissertation, University of Tennessee, (1965).

McNeely, J.J., "College Student Mortality." Washington, D.C.: U.S. Office of Education, Bulletin 1937, No. 11, (1938).

Medsker, L.L. & Trent, J.W., Beyond High School, San Francisco: Jossey-Bass, Inc., 1968.

Mehra, N., "Retention and Withdrawal of University Students." Office of Institutional Research, University of Alberta, (December 1973).

Menning, A.J. et al., "Attrition." College and University, 50 (Summer 1975): 753-56.

Mercer, M., "Study of Student Mortality in a Home Economics College." Journal of Educational Research, 34 (March 1941): 531-37.

Mengold, R.A., "The Development and Testing of a Scale to Identify Male Dropouts at Liberal Arts Colleges." EDO12388, (1967).

Mengold, F., "A Scale to Identify Male Dropouts at Liberal Arts Colleges." College Student Survey, 3 (1969): 19-22.

Merrill, K.E., "The Relationship of Certain Non Intellectual Factors to Lack of Persistence of Higher Ability Students at the University of California, Berkeley." Doctoral dissertation, University of California, Berkeley, (1964).

Meskill, V., "Success or Academic Failure." Journal of the National Association of College Admission Counselors, 15 (1971): 15.

Meyer, J., "High School Effects on College Intentions." American Journal of Sociology, 76 (1970): 59-70.

"Michigan Center Gives Dropouts a Second Chance." College Management, 56 (April 1971).

Miller, M.R., "Retaining Adults: New Educational Designs for a New Clientele." Noel (ed), Reducing the Dropout Rate, 47-56.

Miller, G.W., "Student Drop-Out and Wastage: A Comparison Between Australian and British Universities." The Australian University, Part I, 11 (November 1973): 239-50, Part II, 12 (May 1974): 3-25.

Milton, O., Ed. "Proceedings: A Conference on Student Retention in Tennessee College and University." ED044084 (1968).

Mitchell, J.A., "A Study of Full Time Students Who Discontinued Their Attendance at A.W.C. After Attending One or Both Semesters of the 1966-67 School Year." ED024360 (1968).

Mock, K.R. & Young, G., "Students' Intellectual Attitudes, Aptitude, and Persistence at the University of California." ED032862 (1959).

Morgan, M., "The OPI, the ACT and University Attrition: A Discriminant Analysis." Dissertation Abstracts International, 31 (1971): 3906.

Morgenstern, M. & Stronzin, H., "A Study of Student Dropouts from Vocationally Oriented Business Programs at Nassau Community College." ED044100 (1970).

Morishima, J.K., "Analysis of Probations and Drops for Students Entering in 1962-63." University of Washington, Office of Institutional Research, Report No. 143-4 (1968).

Morrisey, R.J., "Attrition in Probationary Freshmen." Journal of College Student Personnel, 12 (1971): 279-85.

Morrison, J.L. & Ferrante, R., "Why the Disadvantaged Drop Out: The Administrators' View." ED071665 (1973).

Mukherjee, C., "Characteristics of Honor Graduates at the University of Nebraska." Dissertation Abstracts, (1958): 499-500.

Mullally, Robert R., "A Study to Determine the Dropout Rate and the Reasons Why Academically Able Students Withdrew from the University of Wyoming During the Period, the Beginning of Fall Semester 1963 to the Begining of Fall Semester 1964." ED030814 (1967).

Munger, P.F., "Can We Really Predict Who Will Graduate from College." College and University, 32 (Winter 1957): 218-21.

Munger, P., "Student Persistence in College." Personnel and Guidance Journal, 35, (1956): 241-43.

Nasatir, D., "A Contextual Analysis of Academic Failure." School Review, 71 (1969): 290-98.

Nelson, A.G., "College Characteristics Associated with Freshman Attrition." Personnel and Guidance Journal, 44 (1966): 1046-50.

Nelson, J., "High School Context and College Plans: The Impact of Social Structure on Aspirations." American Sociological Review, 37, (1972): 143-48.

Newcomb,T.M., Student Peer-Group Influence. In N. Sanfrod (Ed.), The American College. New York: Wiley, 1962.

Newcomb, T.M. & Flacks, R., Deviant Subcultures on a College Campus. Ann Arbor: University of Michigan, 1964.

Newman, F. et al., "Report on Higher Education." U.S. Department of Health, Education and Welfare, Office of Education, (1971).

Newman, M.A., "The Student and the College Community: A Study of Attrition and Persistence in a Highly Selective Liberal Arts College." Cooperative Research Project No. S-130, Chicago: University of Chicago, (1965).

Nicholl, A., "An Investigation of Harvard Dropouts." Final Report, ED042068, (1970).

Nicholson, E., "Predictors of Graduation From College." ACT Research Report, 56, (1973) Iowa City, Iowa: American College Testing Program, 1973.

Noel, L.& Renter, L., College Student Retention: An Annotated Bibliography of Recent Dissertations (1970-1975), ACT, Iowa City, Iowa.

"Noel, L. (ed), Reducing the Dropout Rate, New Directions for Student Services, San Francisco: Jossey-Bass, Inc., 1978.

Noel, L., "First Steps in Starting a Campus Retention Program." Noel (ed), Reducing the Dropout Rate, 87-98.

O'Donnell, P., "Predictors of Freshman Academic Success and Their Relationship to Attrition." Dissertation Abstracts, 39 (1968): 798.

Oklahoma State Regents for Higher Education, "In and Out of College." Oklahoma City: State Regents for Higher Education, (1964).

Omnibus Personality Inventory: Research Manual (1962): University of California, Berkeley Center for the Study of Higher Education.

O'Shea, A.J., "Peer Relationships and Male Academic Achievement: A Review and Suggested Clarification." Personnel and Guidance Journal, 47 (1969): 417-23.

Oti, L.S., "Admissions Management with the Focus on Retention." Noel (ed), Reducing the Dropout Rate, 23-28.

Otto, D., "A Study of Students Who Withdrew from the University of Michigan's College of Literature, Science, and the Arts." Draft, (October 1966).

Otto, D. & Cope, R.G., "A Study of Students Who Voluntarily Withdrew from the University of Michigan's College of Literature, Science, and the Arts." Ann Arbor: Office of Institutional Research, (1965).

Pace, C.R. & Stern, G.G., "An Approach to the Measurement of Psychological Characteristics of College Environments." Journal of Educational Psychology, 49, (1958): 269-77.

Pace, C.R., "College and University Environment Scales: Preliminary Technical Manual." Princeton: Educational Testing Service, (1963).

Pace, C.R., "Methods of Describing College Cultures." Teachers College Record, 63, (1962): 267-77.

Pace, C.R., The Demise of Diversity: A Comparative Profile of Eight Types of Institutions. New York: McGraw-Hill, 1974.

Pandey, R.E., "Personality Characteristics of Successful, Dropout and Probationary Black and White University Students." Journal of Counseling Psychology, 19, (1972): 382-86.

Panos, R.J. & Astin, A.W., "Attrition Among College Students." ACE Research Reports, 2 (1967):, also ED014113.

Panos, R.J. & Astin, A.W., "Attrition Among College Students." American Educational Research Journal, 5 (1968): 57-72.

Pascarella, E.T. & Terenzini, P.T., "Classroom and Voluntary Freshmen Attrition." Journal of Higher Education, 48 (September/October 1977): 548-52.

Pascarella, E.T. & Terenzini, P.T., "Patterns of Student-Faculty Informal Interaction Beyond the Classroom and Voluntary Freshmen Attrition." Journal of Higher Education, 48 (September/October 1977): 540-52.

*Pantages, T.J., & Creedon, C.F., "Studies of College Attrition: 1950-1975." Review of Educational Research, 48 (Winter 1978): 49-101.

*Patrick, C. et al., A Manual for Conducting Student Attrition Studies, Rev. Ed., National Center for Higher Education Management Systems, Boulder, Colorado, 1979.

Pattishall, E.G., Jr. & Banghart, F.W., Jr., "A Comparative Analysis of School of Education Graduates and Withdrawals." Educational Research Bulletin, University of Virginia, (April 1957).

Patton, B.K., Jr., "A Study of Drop-Outs from the Junior Division of Louisiana State University 1953-55." Dissertation Abstracts (1958): 484-85.

Peng, S.S. & Fetters, W.B., "Variables Involved in Withdrawal During the First Two Years of College." American Educational Research Journal, 15 (Summer 1978): 361-72.

Pervin, L.A., "Counseling the College Dropout." Journal of College Placement, 26 (October 1965): 30-31.

Pervin, L.A., "A New Look at College Dropouts." University: A Princeton Quarterly, (Winter 1965).

Pervin, L.A., "The Later Academic Vocational and Personal Success of College Dropouts." In L. Pervin et al. (Eds.), The College Dropout and the Utilization of Talent, Princeton: Princeton University Press.

Pervin, L.A., "Dissatisfaction with College and the College Dropout: A Transactional Approach." ED021335 (1967).

Pervin, L.A. & Rubin, D.B., "Student Dissatisfaction with College and the College Dropout: A Transactional Approach." Journal of Social Psychology, 72 (1967): 285-95.

Pervin, L.A. et al., (eds.), The College Dropout and the Utilization of Talent. Princeton: Princeton University Press, 1966.

Peterson, D., "A Longitudinal Study of Nonintellective Characteristics of College Dropouts." Dissertation Abstracts, 28, (1967): 2076.

Peterson, R.E., "On a Typology of College Students." Research Bulletin, Princeton: Educational Testing Service, (1965): 65-69.

Petrik, N.D., "Socio-Economic Status, Vocational Interests, and Persistence in Selected College Curricula." Vocational Guidance Quarterly, 16 (1967): 39-44.

Phillips, D.L., "Deferred Gratification in a College Setting: Some Costs and Gains." Social Problems, 13 (1966): 333-43.

Pitcher, R.W., "Helping to Salvage the College Failout." ED029575, (1969).

Pitcher, R.W. & Blaushild, B., "Why College Students Fail." Review in Journal of Higher Education, 42 (1972): 4.

Pope, L., The Right College. New York: Macmillan, 1970.

Prediger, D.J., "Prediction of Persistence in College." Journal of Counseling Psychology, 12 (Winter 1965): 62-67.

Pulcrano, O., "The Class of 1960: A Study of the College Survival Rate." School Counselor, 16 (1969): 277-81.

Pumroy, D.K., "Cigarette Smoking and Academic Achievement." The Journal of General Psychology, 77, (1967): 31-34.

Reboussin, R., "Trends and Issues at Beloit College, Report No. 3: The Class of 1972." ED033651, (1969).

Reed, H.B., "College Students' Motivation Related to Voluntary Dropout and Under-Achievement: College Assessment Inventory." Journal of Educational Research, 62 (May 1968): 412-16.

Reik, I.E., "The College Dropout in Clinical Perspective." In L. Pervin et al. (Eds.), The College Dropout and the Utilization of Talent. Princeton: Princeton University Press, (1966): 177-87.

Renter, L., "College Student Retention: An Annotated Bibliography." Noel (ed.), Reducing the Dropout Rate, 99-106.

Rice, G.A., "An Examination of the Earned Grade Distribution Between Successful and Dropout Students at Yakima Valley College." ED036293, (1969).

Richling, J., "70 Percent." University Quarterly, 25 (Spring 1971): 135-38.

Rubin, B. & Johnson, P., "Identifying Potential Dropouts with Class Lists: College Students." Improving College and University Teaching, 17 (1969): 178-79.

Robinson, L.F., "Relation of Student Persistence in College to Satisfaction with Environmental Factors." Doctoral dissertation, University of Arkansas (1967).

Robinson, L.F., "Relation of Student Persistence in College to Satisfaction with Environmental Factor." Journal of Educational Research, 62 (1969): 6-10.

Rock, D. et al., "Relationships Between College Characteristics and Student Achievement." American Educational Research Association, 7 (1970): 109-121.

Rootman, I., "Voluntary Withdrawal from a Total Adult Socialization Organization: A Model." Sociology of Education, 45 (1972): 258-70.

Rose, H.A., "Prediction and Prevention of Freshman Attrition." Journal of Counseling Psychology, 13 (Summer 1965): 399-403.

Rose, H.A. & Elton, C.F., "Another Look at the College Dropout." Journal of Counseling Psychology, 13 (Summer 1966): 242-45.

Rossman, J.E. et al., Open Admissions at City University of New York: An Analysis of the First Year. New York: Prentice-Hall, 1975.

Rossman, J.E. & Kirk, B.A., "Factors Related to Persistence and Withdrawal Among University Students." Journal of Counseling Psychology, 17 (January 1970): 56-62.

Rutkevich, M.N., "Why a Student Does Not Arrive at the Finish." Soviet Education, 8 (January 1966): 28-37.

Ryle, A., Student Casualties. London: Penguin, 1969.

Ryle, A., "Student Health and Student Wastage." University Quarterly, 25 (Spring 1971): 162-68.

Samenow, S.E., "Studying the College Dropout." Teacher College Record, 68 (May 1967): 640-49.

Sanford, N., Developmental Status of the Entering Freshman. In N. Sanford (Ed.), The American College. New York: Wiley, 1962.

Sanford, N., College and Character. New York: Wiley, 1964.

Samoff, I. & Raphael, T., "Five Failing College Students." American Journal of Orthopsychiatry, 25 (1955): 343-72.

Savicki, V., Schumer, H. & Stanfield, R., "Student Role Orientations and College Dropouts." Journal of Counseling Psychology, 17 (1970): 559-66.

Scannell, D.D., "Prediction of College Success from Elementary School Performance." Journal of Educational Psychology, 51 (1960): 130-34.

Schmid, J. & Reed, S.R., "Factors in Retention of Residence Hall Freshmen." Journal of Environmental Education, 35 (1966): 28-36.

Schoemer, J., "The College Pushout." Personnel and Guidance Journal, 46 (1968): 677.

Scott, J.C., "A Study of the Relationship Between Students' Personal Perception of Environmental Press and Attrition at a Two-Year College." Doctoral dissertation, University of Missouri, Columbia (1971).

Sedlacek, W.E. & Webster, D.W., "Admission and Retention of Minority Students in Large Universities." Journal of College Student Personnel, 19 (May 1978): 242-48.

Selby, J.E., "Relationships Existing Among Race, Student Financial Aid, and Persistence in College." Journal of College Student Personnel, 14 (1973): 38-40.

Sensor, P., "Follow-Up of 1965 Freshmen Who Did Not Return for Fall Semester 1966." ED014987, (1967).

Sewell, W. & Shah, V., "Socioeconomic Status, Intelligence, and the Attainment of Higher Education." Sociology of Education, 40 (1967): 1-23.

Sewell, W. & Wegner, E., "Selection and Context as Factors Affecting the Probability of Graduation from College." American Journal of Sociology, 75 (1970): 665, 679.

Sexton, V.S., "Factors Contributing to Attrition in College Populations: Twenty-five Years of Research." Journal of General Psychology, 72 (1965): 301-2.

Sharp, L.F. & Chason, L.R., "Use of Moderator Variables in Predicting College Student Attrition." Journal of College Student Personnel, 19 (Spring 1978), 388-93.

Shaw, M.C. & Brown, D.J., "Scholastic Underachievement of Bright College Student." Personnel and Guidance Journal, 34 (1957): 195-99.

Sheeder, P.L., "Student Losses in a Liberal Arts College." Journal of American Association of College Registrars, 15 (1939): 34-40.

Shner, I. & Lavin, D.F., "Open Admissions: A Bibliography for Research and Application." City University of New York, Office of Program and Policy Research (1974).

Shulman, C.H., Recent Trends in Student Retention, Washington: American Association for Higher Education, 1976 ED 127841.

Sidles, C., "The Relationship of Changes in Freshman Perceptions of Campus Environments to College Achievements and Attrition." Dissertation Abstracts, 29 (1969): 38-44.

Skaling, M.M. "Review of the Research Literature." In R. Cope et al. Eds., An Investigation of Entrance Characteristics Related to Types of College Dropouts. United States Office of Education, Final Research Report, (1971): 17-60.

Skaling, M.M., "An Exploratory Study of Twenty Types of College Dropouts and Stay-Ins Using Social and Psychological Variables." Masters thesis prospectus. Graduate School, University of Massachusetts, Amherst, Massachusetts, (May).

Slater, J.M., "Influence on Students' Perception and Persistence in Undergraduate College." Journal of Educational Research, 54 (September 1960): 3-8.

Slocum, W.L., Academic Mortality at the State College of Washington. Pullman: State College of Washington.

Smith, J.S., "A Multivariate Combination of Academic and Non-Academic Factors Related to Student Attrition." Doctoral dissertation, University of Pittsburgh, (1971).

Smithers, A.G., "Factors in the Success and Failure of Students." In Proceedings, London Society for Research into Higher Education, (1972): 16-34.

Smithers, A.G. & Batcock, A., "Success and Failures Among Social Scientists and Health Scientists at a Technological University." The British Journal of Educational Psychology, 40 (June 1970): 144-53.

Smithers, A.G. & Dann, S., "Success and Failure Among Engineers, Physical Scientists and Linguists at a Technological University." British Journal of Educational Psychology, 44 (November 1974): 189-93.

Snyder, F.A. & Blocker, E., "A Profile of Non-Persisting Students: A Description of Educational Goals and Achievements, Activities, and Perceptions of Non-Graduates, Spring 1969. Research Report No. 3." ED037218 (1970).

Spady, W.G., "Educational Mobility and Access: Growth and Paradoxes." American Journal of Sociology, 73 (1967): 273-86.

*Spady, W.G., "Dropouts from Higher Education: An Interdisciplinary Review and Synthesis." Interchange, 1 (April 1970): 64-85.

*Spady, W.G., "Dropouts from Higher Education: Toward an Empirical Model." Interchange, 2 (1971): 38-62.

Stanfield, J.D., "Socioeconomic Status as Related to Aptitude, Attrition, and Achievement of College Students." Sociology of Education, 46 (Fall 1973), 480-8.

Stark, J.S., "The Relation of Disparity in Student and Faculty Educational Attitudes to Early Student Transfer from College." Research in Higher Education, (1975): 329-44.

Starr, A. et al., "Differences in College Student Satisfaction: Academic Dropouts, Non-Academic Dropouts, and Non Dropouts." Journal of Counseling Psychology 19 (1973): 318-22.

Stern,G.G., People in Context, New York Wiley, 1970.

Stern, G.G. et al., Methods in Personality Assessment. Glencoe, Illinois: Free Press, 1956.

Stier, W.F., Jr.,"Student-Athletic Attrition Among Selected Liberal Arts Colleges." ED058834, (1971).

Stone, D.B., "Predicting Student Retention and Withdrawal in a Selected State University College of New York." Doctoral dissertation, Cornell University, (1965).

Stone, L.A. & Ryan, G.E., "High School Study Habits and College Freshman Attrition." Personnel and Guidance Journal, (1964): 188-89.

Stordahl, K.E., "Student Perception of their Voluntary Withdrawal from Northern." Office of Institutional Research, Northern Michigan University (October 1967).

Stordahl, K.E., "Influence on Voluntary Withdrawal from College." College and University, 45 (1970): 163-71.

Stork, D. & Berger, P.D., "Attrition in the Liberal Arts College of a Major Metropolitan University." Research in Higher Education, 9 (December 1978), 281-89.

Suczek, R.F. & Alfert, E., "Personality Characteristics of College Dropouts." ED010101 (1966).

Suddarth, B.M., "Factors Influencing the Graduation of Freshmen who Enroll at Purdue University." Unpublished report. (June 1957).

*Summerskill, J., "Dropouts from Colleges." In N. Sanford, (Ed.), The American College. New York: Wiley, 627-57, 1962.

Summerskill, J. & Darling, C.E., "Sex Differences in Adjustment to College." Journal of Counseling Psychology, 46 (1955): 355-61.

Taylor, R.G. & Hanson, G., "Interest and Persistence." Journal of Counseling Psychology, 17 (1970): 506-09.

Taylor, R.G. et al., "Interest Patterns of Successful and Non-Successful Male Collegiate Technical Students." Journal of Educational Research, 60 (May): 401-02.

Taylor, R.G. et al., "Experimental Housing and Tutoring: Effects on Achievement and Attrition." Journal of College Student Personnel, 12 (1971): 271-78.

Tennessee College Association. Student Retention--Attrition, Entering Freshmen--Fall 1968. Report No. 4. Tennessee College Association, Center for Higher Education, (1972).

Thayer, R.E., "Do Low Grades Cause College Students to Give Up?" ED054725, (1971).

Theus, R., "The Miseducated Dropout." College Student Journal, 5 (November-December 1971): 119-20.

Thistlethwaite, D.L., "College Press and Student Achievement." Journal of Eductional Psychology, 50 (1959): 183-91.

Thistlethwaite, D.L., "Recruitment and Retention of Talented College Students." Cooperative Research Project with the United States Office of Education, (January 1963).

Thompson, M., "Admission Information as Predictors for Graduation." Unpublished masters thesis, Cornell University, (1958).

Timmons, F., "Personality and Demographic Factors Associated with Freshman Withdrawal from College." Dissertation Abstracts International, 33 (1972). 1808-09.

Tinto, V., "The Effect of College Accessibility Upon the Rates and Selectivity of College Attendance." Doctoral dissertation, University of Chicago, (1971).

*Tinto, V., "Dropout from Higher Education: A Review and Theoretical Synthesis of Recent Research." Review of Educational Research, 45 (1975): 89-125.

*Terenzini, P.T. & Pascarella, E.T., "Relation of Students' Precollege Characteristics and Freshman Year Experience to Voluntary Attrition." Research of Higher Education, 9 (December 1978): 347-66.

*Terenzini, R.T. & Pascarella, E.T., "Voluntary Freshmen Attrition and Patterns of Social and Academic Integrations in a University: A Test of a Conceptual Model." Research in Higher Education, 6 (March 1971), 25-43.

Trapp, D., Pailthrop, K. & Cope, R., Entrance Characteristics and their Relationship to Types of Student Dropouts." In Institutional Research and Institutional Policy Formulation: 11th Annual Forum of the Association for Institutional Research, 1971. Claremont, Calif.: Office of Institutional Research, 1971.

Trent, J.W., et al., "Technology Education and Human Development." Educational Record, 46 (1965): 93-103.

Trent, J.W. & Medsker, L.L., Beyond High School. San Francisco: Jossey-Bass, Inc., 1968.

Trent, J. & Ruyle, J., "Variation, Flow, and Patterns of College Attendance." College and University, 41 (1965): 61-76.

Turner, H.J., Jr., "The Half that Leaves: A Limited Survey of Attrition in Community Colleges." ED036127. (1970).

*U.S. National Center for Education Statistics. Withdrawal from Institutions of Higher Education: An Appraisal with Longitudinal Data Involving Diverse Institutions. National Longitudinal Study. William B. Fetters, Project Officer. Washington, D.C.: U.S. Government Printing Office, 1977.

Van Alstine, C., "Attrition Rates of College Students." An unpublished paper. Washington, D.C.: American Council on Education, (1973).

Vaughan, R., "College Dropouts: Dismissed vs. Withdrew." Personnel and Guidance Journal, (1968): 685-89.

Vorreyer, W.J., "Relationship of Selected Adjustment Factors, College Ability and Achievement to Dropouts and Nondropouts of College Freshmen." Journal of Educational Research, (1963): 362-64.

Vreeland, R. & Bidwell, C., "Classifying University Departments: An Approach to the Analysis of Their Effects Upon Undergraduates' Values and Attitudes." Sociology of Education, 39 (1966): 237-54.

Wagner, V., "Success, Failure, Level of Aspiration, and Self-Esteem." ED025217, (1968).

Wallace, W.I., Student Culture: Social Structure and Continuity in a Liberal Arts College. Chicago: Aldin, 1966.

Wallach, M.A., "The Psychology of Talent and Graduate Education." Paper presented at a conference on Cognitive Styles and Creativity, sponsored by the Graduate Record Examination Board, Montreal, (1972).

Waller, C.A., "Research Related to College Persistence." College and University, 38 (1964): 281-94.

Warriner, C.C. et al., "Failure to Complete as Family Characteristics: A College Sample." Journal of Education Research, 59 (1966): 466-68.

Waterman, A.S., Geary, P.S. & Waterman, C.K., "Longitudinal Study of Changes in Ego Identity Status from the Freshman Year to the Senior Year at College." Developmental Psychology, 10 (1974) 387-92.

Waterman, A.S. & Waterman, C.K., "Relationship Between Freshman Ego Identity Status and Subsequent Academic Behavior: A Test of the Predictive Validity of Marcia's Categorization System for Identity Status." Developmental Psychology, (1972): 179.

Watley, D.J., "Type, Location, and Size of High School and Prediction of Achievement in an Institute of Technology." Educational and Psychological Measurement, (1964): 331-38.

Watley, D.J., "The Minnesota Counseling Inventory and Persistence in an Institute of Technology." Journal of Counseling Psychology, 12 (1965): 94-97.

Wedge, B., Psycho-Social Characteristics of College Men. New Haven: Yale University Press, 1958.

Wegner, E.L., "The Relationship of College Characteristics to Graduation." Doctoral dissertation, University of Wisconsin, 1967.

Wegner, E.L. & Sewell, W.H., "Selection and Context as Factors Affecting the Probability of Graduation from College." American Journal of Sociology, 75 (1970): 665-79.

Weigel, M., "A Comparison of Persisters and Non-Persisters in a Junior College." ED044115, (1969).

Weigrand, G., "Goal Aspirations and Academic Success." Personnel and Guidance Journal, 31 (1953): 458-61.

Weigrand, G., "Adaptiveness and the Role of Parents in Academic Success." Personnel and Guidance Journal, 35 (1957): 518-22.

Weintraub, R.G. & Salley, R.E., "Graduation Prospects of an Entering Freshman." Journal of Educational Research, 39 (October 1945): 116-26.

Wenrich, W. et al., "Keeping Dropouts in : Retention of Students Identitifed as High Probability Dropouts." ED047684, (1971).

Wench, L.M., "Role of Financial Aid in Attrition and Retention." College Board Review, 104 (Summer 1977): 16-21.

Wessell, T.R., "Reducing Attrition on the College Campus." NASPA Journal, 16 (Autumn 1978): 26-32.

West, R.M., "Student Mortality, Student Survival, and Student Accounting." In E. Hudelson, (Ed.). Problems of College Education. Minneapolis: University of Minnesota Press, 1928.

Wharton, W.L., "Factors Associated with Success of Returning College Dropouts." Dissertation Abstracts, 27 (1966): 6-16.

White, J.H. "Individual and Environmental Factors Associated with Freshman Attrition at a Multi-Campus Community College." Doctoral dissertation, George Washington University, 1971.

Whittaker, D., "Psychological Adjustment of Intellectual, Non-Conformist Collegiate Dropouts." Adolescence, 6 (Winter 1971): 415-24.

"Why Do College Freshmen Drop Out?" American Education, 4 (June 1967).

Wideman, J.W., "College Undergraduate Dropouts: Causes, Cures and Implication for Secondary Schools." National Association of Secondary Schools Principals' Bulletin, 50 (April 1966): 224-34.

Williams, T., "Comparison of College Dropouts, Returnees, and Graduates on Selected High School Variables." Dissertation Abstracts, 29 (1969): 2972.

Williams, V., "Difficulties in Identifying Relatively Permanent Characteristics Related to Persistence in College." Journal of Counseling Psychology, 13 (Spring 1966).

Wiliams, V., "College Dropout: Qualities of His Environment." Personnel and Guidance Journal, 45 (1967): 878-882.

Willingham, W.W. & Findikyan, N., "Transfer Students: Who's Moving from Where-to Where, and What Determines Who's Admitted." College Board Review, (Summer 1969): 4-11.

Wing, C.W. & Wallach, M.A., College Admissions and the Psychology of Talent. New York: Holt, Rinehart & Winston, 1971.

Winther, S.R. et al., "The Invisible Student: A Longitudinal Study of the Beginning Freshman Class of 1963 at the University of New Mexico." ED030532, (1969).

Wishiewsky, W., "Some Factors Affecting Success at University." Polish Sociological Bulletin, 19 (1969): 59-73.

Withey, S.B., A Degree and What Else. New York: McGraw-Hill, 1971.

Wolford, M.E., "A Comparison of Dropouts and Persisters in a Private Liberal Arts College." Doctoral dissertation, University of Oregon, (1964).

Wood, P.J., "Correlates of Attrition and Academic Success." In Kenneth M. Wilson, (Ed.). Research Related to College Admissions, Atlanta: Southern Regional Education Board, (1963): 89-105.

Wright, E.O., "A Study of Student Leaves of Absence." Journal of Higher Education, 44 (March 1973): 235-47.

Wright, C.R., "Success or Failure in Earning Graduate Degrees." Sociology of Education, 38 (Fall 1964): 73-97.

Yartz, Larry J.,"Student Attrition at Allegheny College." Report of the Office Institutional Research, Allegheny College, Meadville, Pa. (1974).

*Yonge, G.E., "Students; Persistence." Review of Educational Research, 35 (1965): 256-57.

*Young, R.D., "Wipe Out Freshman Failures." School and Community, (December, 1966): 10-11.

Yourglich, A., "A Four Phase Study of Value Homophily, Friendship, Social Participation, and College Dropouts." Sociological Analysis, 26 (1966): 19-26.

Yuker, H.E. et al., "Who Leaves Hofstra, for What Reasons." Research Report No. 102. Center for the Study of Higher Education, Hofstra University, (May 1972).

Zaccaria, L. & Creaser, J., "Factors Related to Persistence in an Urban Commuter University." Journal of College Student Personnel, 12 (July 1971): 286-91.

APPENDIX A

Majors by Age Category

(Educational Programs and Resources, Chancellor's Office)

Percent Distribution of Undergraduate Majors by Age Category: Fall 1978*

Discipline Category	AGE 25	25-29	30-34	35-
Agriculture and Natural Resources	4.5	3.0	1.3	.7
Architecture and Environmental Design	1.1	.7	.4	.3
Area Studies	.1	.3	.2	.4
Biological Sciences	6.0	5.7	3.0	1.4
Business and Management	22.6	21.5	24.5	22.6
Communications	4.2	2.6	1.9	1.8
Computer and Information Sciences	1.4	1.5	1.4	.9
Education	1.6	1.4	1.5	2.0
Physical Education	3.5	2.2	1.0	.4
Industrial Education	1.6	2.6	2.7	3.1
Engineering	8.5	8.7	6.3	3.3
Fine and Applied Arts	7.2	7.5	5.9	6.7
Foreign Languages	.9	1.1	1.1	1.9
Health Professions	3.4	3.2	2.9	3.3
Nursing	1.7	2.6	2.9	4.2
Home Economics	2.4	1.5	1.4	1.7
Letters	3.0	4.2	4.1	5.5
Library Science	----	----	----	----
Mathematics	1.2	1.1	1.1	.9
Physical Sciences	2.4	2.6	1.7	1.0
Psychology	4.1	5.7	6.7	8.7
Public Affairs and Services	5.6	5.6	6.7	7.9
Social Sciences	7.4	9.5	11.0	13.7
Interdisciplinary Studies	5.4	4.9	4.7	7.7
All Categories	100.00%	100.00%	100.00%	100.00%
Undeclared	12.7%	5.6%	5.7%	7.7%
N	149,423	34,271	16,728	16.3

Fall 1978

Master's Degree Enrollments

Discipline Category	Age 24 and under	%	Age 24-29	%	Age 30-34	%	Age 35 and over	%
Agriculture and Natural Resources	73	1.22	161	1.20	80	.91	26	.3
Architecture and Enviromental Design	64	1.07	148	1.10	56	.64	27	.3
Area Studies	14	.23	39	.29	23	.26	38	.4
Biological Sciences	447	7.49	640	4.76	217	2.46	107	1.2
Business and Management	904	15.16	2,016	14.98	1,335	15.15	920	10.3
Communications	78	1.31	168	1.25	85	.96	74	.8
Computer and Information Sciences	89	1.49	251	1.87	160	1.81	131	1.5
Education	864	14.49	2,791	20.74	2,205	25.02	3,004	33.5
Physical Education	194	3.25	374	2.78	134	1.52	58	.6
Industrial Education	30	.50	86	.64	115	1.30	151	1.7
Engineering	227	3.81	663	4.93	403	4.57	269	3.0
Fine and Applied Arts	273	4.58	739	5.49	427	4.8	440	4.9
Foreign Languages	53	.89	128	.95	74	.84	150	1.6
Health Professions	570	9.56	710	5.28	397	4.5	365	4.1
Nursing	13	.22	95	.71	109	1.24	205	2.3
Home Economics	76	1.27	167	1.24	111	1.26	164	1.8
Letters	291	4.88	782	5.81	515	5.84	536	6.0
Library Science	14	.23	35	.26	33	.37	66	.7
Mathematics	66	1.11	123	.91	74	.84	68	.7
Physical Sciences	207	3.47	336	2.50	136	1.54	69	.7
Psychology	437	7.33	717	5.33	391	4.44	430	4.8
Public Affairs and Services	454	7.61	1,053	7.82	787	8.93	703	7.8
Social Sciences	356	5.97	811	6.03	603	6.84	574	6.4
Interdisciplinary Studies	34	.57	118	.88	97	1.10	91	1.0
Undeclared	135	2.26	307	2.28	247	2.80	287	3.2
All Categories	5,963	100%	13,458	100%	8,814	100%	8,953	100%

APPENDIX B

Eligibility Table for California Residents

Eligibility Table for California Residents

ADMISSIONS TABLE FOR CALIFORNIA HIGH SCHOOL GRADUATES OR CALIFORNIA LEGAL RESIDENTS

GPA	ACT Score	SAT Score	GPA	ACT Score	SAT Score	GPA	ACT Score	SAT Score
(——)*			2.80	19	832	2.39	27	1160
3.20	11	512	2.79	19	840	2.38	27	1168
3.19	11	520	2.78	19	848	2.37	27	1176
3.18	11	528	2.77	19	856	2.36	27	1184
3.17	11	536	2.76	19	864	2.35	28	1192
3.16	11	544	2.75	20	872	2.34	28	1200
3.15	12	552	2.74	20	880	2.33	28	1208
3.14	12	560	2.73	20	888	2.32	28	1216
3.13	12	568	2.72	20	896	2.31	28	1224
3.12	12	576	2.71	20	904	2.30	29	1232
3.11	12	584	2.70	21	912	2.29	29	1240
3.10	13	592	2.69	21	920	2.28	29	1248
3.09	13	600	2.68	21	928	2.27	29	1256
3.08	13	608	2.67	21	936	2.26	29	1264
3.07	13	616	2.66	21	944	2.25	30	1272
3.06	13	624	2.65	22	952	2.24	30	1280
3.05	14	632	2.64	22	960	2.23	30	1288
3.04	14	640	2.63	22	968	2.22	30	1296
3.03	14	648	2.62	22	976	2.21	30	1304
3.02	14	656	2.61	22	984	2.20	31	1312
3.01	14	664	2.60	23	992	2.19	31	1320
3.00	15	672	2.59	23	1000	2.18	31	1328
2.99	15	680	2.58	23	1008	2.17	31	1336
2.98	15	688	2.57	23	1016	2.16	31	1344
2.97	15	696	2.56	23	1024	2.15	32	1352
2.96	15	704	2.55	24	1032	2.14	32	1360
2.95	16	712	2.54	24	1040	2.13	32	1368
2.94	16	720	2.53	24	1048	2.12	32	1376
2.93	16	728	2.52	24	1056	2.11	32	1384
2.92	16	736	2.51	24	1064	2.10	33	1392
2.91	16	744	2.50	25	1072	2.09	33	1400
2.90	17	752	2.49	25	1080	2.08	33	1408
2.89	17	760	2.48	25	1088	2.07	33	1416
2.88	17	768	2.47	25	1096	2.06	33	1424
2.87	17	776	2.46	25	1104	2.05	34	1432
2.86	17	784	2.45	26	1112	2.04	34	1440
2.85	18	792	2.44	26	1120	2.03	34	1448
2.84	18	800	2.43	26	1128	2.02	34	1456
2.83	18	808	2.42	26	1136	2.01	34	1464
2.82	18	816	2.41	26	1144	2.00	35	1472
2.81	18	824	2.40	27	1152	(——)†		

*Students earning grade-point averages above 3.20 are eligible for admission.
†Students earning grade-point averages below 2.0 are not eligible for admission.

APPENDIX C

What Works in Student Retention Questionnaire (NCHEMS, ACT)

The American College Testing Program
P.O. Box 168
Iowa City, Iowa 52243

National Center for Higher Education
Management Systems
P.O. Drawer P
Boulder, Colo. 80302

WWISR
What Works in Student Retention?

Most colleges and universities are concerned with the problem of student attrition and retention. We have sent this questionnaire to you because your president has designated you as the person best able to help us identify action programs underway on your campus to improve student retention. We will treat all responses confidentially.

A promise was made to your president that a summary of our nationwide study would be sent to each institution that completes this questionnaire.

Your name _____

Title _____

Institution _____

Address _____

City _____ State _____ Zip _____

Phone _____
area code

PART A
YOUR CAMPUS AND THE GENERAL PROBLEM

An important goal of this project is to determine the nature and extent of student withdrawals during the early years of college.

1. What percentage of your full-time entering freshmen are on the average not enrolled one year later?

   1 ___ 0-5%
   2 ___ 6-10%
   3 ___ 11-15%
   4 ___ 16-20%
   5 ___ 21-25%
   6 ___ 26-30%
   7 ___ 31-35%
   8 ___ 36-40%
   9 ___ 41-45%
   10 ___ 46-50%
   11 ___ 51-55%
   12 ___ 56-60%
   13 ___ 61-65%
   14 ___ 66-70%
   15 ___ 71-75%
   16 ___ 76% or more

2. The above response is based on: **Check one.**
   1 ___ Actual data
   2 ___ Estimates

3. If you have enrollment and retention data readily available, provide the figures for the years indicated.

	1975	1976	1977	1978
Number of new freshmen (full-time only)	1_____	1_____	1_____	1_____
Percent of above freshman students enrolled 1 year later	2_____	2_____	2_____	2_____
Four-year institutions only: Percent of above freshman students enrolled 2 years later	3_____	3_____	3_____	3_____
Total number of full-time students	4_____	4_____	4_____	4_____

4. The above responses are based on: **Check one.**
   1 ___ Actual data
   2 ___ Estimates

PART B
ANALYSES ON YOUR CAMPUS

Many colleges have collected attrition and retention data for a number of years; others have also conducted systematic analytical studies of the subject. In this section, we would like to know whether your institution has engaged in such studies. (We are also asking you to rate the importance you attribute to indicators of attrition, indicators of retention, and characteristics of dropout prone students on your campus.)

5. Which of the following describe(s) your institution? **Check all that apply.**
   1___ We have conducted one or more analytical studies of attrition and retention.
   2___ We are now conducting such a study.
   3___ We are planning to conduct such a study.
   4___ We see the need for a study, but have not acted on it.
   5___ We have not conducted such a study and have no plans to do so.

6. Has your analytical study included a survey of one or more groups?
   1___ Yes
   2___ No. **Go to question 8.**

7. Which of the following groups did (or will) you survey? **Check all that apply; then go to question 9.**
   1___ Prospective students
   2___ Current students
   3___ Former students who did not graduate
   4___ Re-enrollers (stopouts who have re-enrolled)
   5___ Alumni
   6___ Faculty
   7___ Administrators
   8___ Staff
   9___ Others (Specify _____)

8. Why didn't you include a survey in your study? **Check all that apply.**
   1___ Did not think a survey would provide helpful information
   2___ Could not locate suitable instruments
   3___ Too expensive
   4___ Available instruments not flexible enough
   5___ Insufficient time to prepare and administer the survey
   6___ Staff unavailable to prepare and administer the survey
   7___ Local staff unable to develop a suitable instrument
   8___ Difficulties in identifying an appropriate sample
   9___ Difficulties associated with scoring and analyzing data
   10___ Other (Specify _____)

9. Previous research has linked attrition to certain *negative* campus characteristics. (Attrition here refers to students leaving the institution before graduation and not returning for additional study.) Commonly mentioned negative characteristics are listed below. Rate *each* of them in importance to attrition on your campus by circling the appropriate number. Scale: 1—low importance to 5—high importance.

	Importance Low				High
1. Lack of faculty care and concern for students	1	2	3	4	5
2. Lack of staff care and concern for students	1	2	3	4	5
3. Quality of teaching not consistently high	1	2	3	4	5
4. Inadequate academic advising	1	2	3	4	5
5. Inadequate counseling support system	1	2	3	4	5
6. Inadequate academic support services, learning centers, and similar resources	1	2	3	4	5
7. Inadequate financial aid	1	2	3	4	5
8. Inadequate part-time employment opportunities	1	2	3	4	5
9. Inadequate career planning services	1	2	3	4	5
10. Inadequate extracurricular programs	1	2		4	5
11. Inadequate curricular offerings	1	2	3	4	5
12. Restrictive rules and regulations governing student behavior	1	2	3	4	5
13. Unsatisfactory living accomodations	1	2	3	4	5
14. Inadequate personal contact between students and faculty	1	2	3	4	5
15. Inadequate opportunity for cultural and social growth	1	2	3	4	5
16. Insufficient intellectual stimulation or challenge	1	2	3	4	5
17. Conflict between class schedule and job	1	2	3	4	5
Other characteristics you consider important:					
18. _____	1	2	3	4	5
19. _____	1	2	3	4	5
20. _____	1	2	3	4	5

10. From the characteristics you rated "important" (4 or 5), select and rank up to five that you consider to be most important. Enter their numbers below.

1 ____ Most important
2 ____ Second most important
3 ____ Third most important
4 ____ Fourth most important
5 ____ Fifth most important

11. The *positive* characteristics of a campus may conribute directly to retention. Commonly mentioned positive characteristics are listed below. Rate *each* of them in importance to retentention on your campus by circling the appropriate number. Scale: 1—low importance to 5—high importance.

	Importance Low				High
1. Caring attitude of faculty and staff	1	2	3	4	5
2. Consistent high quality of teaching	1	2	3	4	5
3. Consistent high quality of academic advising	1	2	3	4	5
4. Adequate financial aid programs	1	2	3	4	5
5. Admissions practices geared to recruiting students likely to persist to graduation	1	2	3	4	5
6. Overall concern for student-institutional congruence or "fit"	1	2	3	4	5
7. Excellent counseling services	1	2	3	4	5
8. Excellent career planning services	1	2	3	4	5
9. System for identifying potential dropouts (early alert system)	1	2	3	4	5
10. Encouragement of student involvement in campus life	1	2	3	4	5
Other characteristics you consider important:					
11. _____	1	2	3	4	5
12. _____	1	2	3	4	5
13. _____	1	2	3	4	5

12. From the characteristics you rated "important" (4 or 5), select and rank up to five that you consider to be most important. Enter their numbers below.

1 ____ Most important
2 ____ Second most important
3 ____ Third most important
4 ____ Fourth most imporant
5 ____ Fifth most important

13. Some schools have attempted to identify students considered to be "dropout prone." Drawing on your experience on your campus, rate *each* of the following student characteristics in terms of the relationship each bears to a student's likelihood of dropping out. Circle the appropriate number. Scale: 1—low potential for dropping out to 5—high potential for dropping out.

	Relationship to dropout potential				
	Low				High
1. Low academic achievement	1	2	3	4	5
2. Limited educational aspirations	1	2	3	4	5
3. First-generation college student	1	2	3	4	5
4. Commuter	1	2	3	4	5
5. Economically disadvantaged status	1	2	3	4	5
6. Indecision about major or career goal	1	2	3	4	5
7. Inadequate financial resources	1	2	3	4	5
Other characteristics you consider important:					
8. _____	1	2	3	4	5
9. _____	1	2	3	4	5
10. _____	1	2	3	4	5

14. From the characteristics which you rated as having a "high relationship to dropout potential" (4 or 5), select and rank up to five that you consider to be highest in dropout potential. Enter their numbers below.

1 _____ Most important
2 _____ Second most important
3 _____ Third most important
4 _____ Fourth most important
5 _____ Fifth most important

PART C

CAMPUS ORGANIZATION FOR RETENTION

The degree to which a campus is organized to deal with student retention probably helps determine the success of retention efforts. In this section, we are interested in learning how your campus has addressed the issue of organization.

15. Please indicate whether your college has assigned a specific individual to coordinate overall retention activities.

1___No one assigned. *Go to question 17*
2___One existing staff assigned
(Position/Title _____)
a___Released time
(Percentage of full-time position: _____)
b___Overload (added to previous responsibility)
3___Existing staff from several areas assigned
a___Released time
(Percentage of full-time position: _____)
b___Overload (added to previous responsibility)
4___New position created (Title _____)
a___Part time
b___Full time

16. To whom does the retention coordinator report?

1___We have no coordinator
2___President
3___Academic Vice President (Provost)
4___Student Affairs Vice President
5___Registrar
6___Director of Institutional Research
7___Director of Counseling
8___Director of Admissions
9___Specify _____)

17. Have you had a retention steering committee?

1___No. *Go to question 19*
2___Yes

18. Who has served on your steering committee: *Indicate the number serving from each of the following categories.*

1___Faculty
2___Students
3___Administration—General
4___Administration—Academic Affairs
5___Administration—Student Affairs
6___Support service staff (that is, food service, library, housekeeping, secretarial staff, and so forth)
7___Other (Specify _____)

19. Who was the initial moving force behind your retention efforts? **Check all that apply.**

1___ Board of Trustees
2___ President
3___ Vice President for Business
4___ Vice President for Academic Affairs
5___ Vice President for Student Affairs
6___ Faculty
7___ Admissions
8___ Registrar
9___ Academic departments
10___ Counseling services
11___ Alumni
12___ Financial aids
13___ Career planning and placement
14___ Federal statistical or reporting requirements
15___ Other student services
(Specify _____)
16___ External stimulus
(Specify _____)
17___ Other (Specify _____)

PART D
EVALUATION

Your answers to the following questions may help others anticipate and avoid some of the problems that plague retention efforts.

20. Which of the following problems did your retention efforts encounter? **Check all that apply.**

1___ Lack of funds
2___ Lack of staff
3___ Lack of time
4___ Lack of support from faculty
5___ Lack of support from administration
6___ Actual resistance to policy changes
7___ Actual resistance to acceptance of new roles or responsibilities
8___ Insufficient data
9___ Inadequate measurement-evaluation expertise
10___ Inadequate measurement instruments
11___ Inadequate data-processing capabilities

Other problems you encountered:

12___ _____
13___ _____
14___ _____

21. From the above list, select up to five **major** problems. Enter their numbers below and explain the problems in some detail.

1___ _____
_____
_____
2___ _____
_____
_____
3___ _____
_____
_____
4___ _____
_____
_____
5___ _____
_____
_____

22. To help us analyze your responses, please describe unique conditions at your institution that may positively or negatively affect student retention.

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

PART E
ACTION PROGRAMS

The questions in Part E get at the heart of our survey. We are looking for examples of action programs that have been implemented on campus to improve student retention. We want to know what is happening even if a program has not been totally successful.

23. Other than analytical studies of attrition and retention, what specific attempts has your campus made to provide actions programs—new or modified services or curricular offerings—to improve retention on your campus? **Check only those activities that have been restructured or introduced in a specific effort to improve retention.**

1___ No special action program
2___ Special orientation activities
3___ Improvement or redevelopment of academic advising program
4___ Curricular innovations in credit programs
5___ New noncredit course offerings
6___ Establishment of early warning systems for identifying and communicating with potential dropouts or stopouts
7___ Special counseling programs
8___ New administrative structures
9___ New or revitalized extracurricular activities
10___ Expanded academic support/enrichment/learning services
11___ Special or required services for students who have not declared a major
12___ Expanded placement services
13___ Job-related training programs
14___ Faculty/instructional development programs
15___ Formal inclusion of advising effectiveness in faculty promotion and tenure decisions
16___ Special admissions materials and procedures designed to improve student-institutional "fit"
17___ Exit interviews conducted
18___ Use of students as peer advisers and counselors
19___ Involvement of students in administration, curricular design, other traditionally "nonstudent" activities
20___ Special and significant services designed to retain adult learners

Other attempts to improve retention:

21___ _____
22___ _____
23___ _____

The information you provide in the next item will be crucial to our project. Using the form provided, please list and describe specific action programs and activities your institution has initiated to improve student retention. Some definitions are provided to assist you. Please use a separate form for each activity or program. (Make extra copies of the form if necessary.) A sample form is provided for illustrative purposes.

24. Please type your responses. If you give permission, photocopies of your responses may be incorporated into a monograph or otherwise be made available to others. Be certain to include those campus action programs, activities, or models that may be of widespread interest. We hope to highlight these efforts nationally.

Definitions:

Target Group. The student group for whom a particular action program was designed. The group(s) to which a program was applied; for example, all freshmen, commuters, full-time minority students, high-risk students, undeclared majors. If there is more that one target group, please list each one separately.

Retention Activity. A specific intervention strategy implemented on behalf of a particular group or groups of students, at least partly to improve the rate of student retention (or return) from that group or groups; for example, learning assistance centers or programs, special required counseling or advising efforts, orientation classes for credit, early "alert" strategies, prewithdrawal interviews, special training for faculty advisers.

Impact on Target Group. The concrete, observable, documented effects of the action program on the group of students for whom it was implemented; for example, greater satisfaction, attendance, performance, participation. Quantify results, if possible.

Impact on Institution. New college policies, procedures, attitudes, behavior of faculty and staff that resulted from the action programs; for example, new registration procedures, new policies regarding deadline for withdrawals, new core requirements for freshmen, new expectations for faculty advising, documented changes in attitudes or perceptions.

Thank you very much for responding to this survey. We know the demand on your time was significant. Please feel free to share with us any general comments you might have on the survey or on the topic of retention.

You will receive a summary report of the results of this study.

Return completed questionnaire to:

WWISR
NCHEMS
Dr. Philip Beal
P.O. Drawer P
Boulder, CO 80302

Study Directors:

Lee G. Noel, PhD
Regional Director
ACT

Philip E. Beal, PhD
Visiting Scholar
NCHEMS

APPENDIX D

Questionnaire for Non-Returning Students

CSC Bakersfield

CALIFORNIA STATE COLLEGE, BAKERSFIELD

CONFIDENTIAL QUESTIONNAIRE FOR NON-RETURNING STUDENTS

GENERAL INFORMATION

1. Year of birth: 19_____

2. Sex: ☐ (1) Female ☐ (2) Male

3. Civil Rights Category (PLEASE CHECK ONE) (✓)

   ☐ (1) American Indian or Alaskan Native
   ☐ (2) Asian or Pacific Islander
   ☐ (3) Black/Negro
   ☐ (4) Hispanic
   ☐ (5) White, Other than Hispanic

4. Marital Status (PLEASE CHECK ONE) (✓)

   ☐ (1) Single
   ☐ (2) Single, head of household with children
   ☐ (3) Married, no children
   ☐ (4) Married, with children

5. If married, is spouse a student?

   ☐ (1) Yes ☐ (2) No

6. Please check each of the types of financial aid you received while attending Cal State Bakersfield.

   ☐ (1) None
   ☐ (2) Veteran's Benefits
   ☐ (3) Scholarship
   ☐ (4) Grant-in-aid
   ☐ (5) Basic Educational Opportunity Grant (BEOG)
   ☐ (6) Work Study Employment
   ☐ (7) Graduate Assistant Employment
   ☐ (8) Student Assistant Employment
   ☐ (9) Other (PLEASE SPECIFY): _____

   _____

ATTENDANCE INFORMATION

7. Before leaving the College, had you previously interrupted your college education?

   ☐ (1) Yes ☐ (2) No

8. How long were you enrolled before you left the college? (PLEASE CHECK ONE) (✓)

   ☐ (1) Less than one quarter
   ☐ (2) One to two quarters
   ☐ (3) One year or more, but less than two years
   ☐ (4) Two years or more

9. How long has it been since you withdrew from college? (PLEASE CHECK ONE) (✓)

   ☐ (1) Six months or less
   ☐ (2) Six months to a year
   ☐ (3) One year to two years
   ☐ (4) Two years or more

10. What was your last major? _____

    If undeclared, check here ☐

11. What was your status at the time you left? (PLEASE CHECK ONE) (✓)

    ☐ (1) Freshman
    ☐ (2) Sophomore
    ☐ (3) Junior
    ☐ (4) Senior
    ☐ (5) Graduate Student

12. During the last two quarters (or less) that you were enrolled, were you primarily: (PLEASE CHECK ONE) (✓)

    ☐ (1) A full-time student
    ☐ (2) A part-time student
    ☐ (3) Both during the last two quarters

13. During the last two quarters (or less) that you were enrolled, were you employed? (PLEASE CHECK ONE) (✓)

    ☐ (1) Not employed
    ☐ (2) Employed 1-10 hours/week
    ☐ (3) Employed 11-20 hours/week
    ☐ (4) Employed 21-35 hours/week
    ☐ (5) Employed 36 or more hours/week

14. What was your cumulative (overall) grade point average (GPA) at the time you left the college? _____ Were you ever on academic probation while enrolled? (PLEASE CHECK ONE) (✓)

    ☐ (1) Yes ☐ (2) No

15. What are you currently doing? (PLEASE CHECK ALL THAT APPLY) (✓)

    ☐ (1) Attending or plan to attend college soon
    ☐ (2) Entered or plan to enter military service
    ☐ (3) Looking for a job
    ☐ (4) Working in a job
    ☐ (5) Caring for home and/or family
    ☐ (6) Traveling
    ☐ (7) Other (PLEASE SPECIFY): _____

    _____

16. Do you intend to return to Cal State Bakersfield (full or part time) during the next year?

☐ (1) Yes ☐ (2) No

17. If you have transferred to another college or university, please write in the name of the institution and your major, if declared.

Institution Name: _____

Major (if declared): _____

18. Did you enroll at Cal State Bakersfield with the intention of transferring to another college or university?

☐ (1) Yes ☐ (2) No

REASONS FOR NOT CONTINUING OR INTERRUPTING EDUCATION

19. Listed below are several reasons why you might have left or interrupted your education at Cal State Bakersfield. To what extent are these your reasons for leaving the college? (PLEASE CHECK THE APPROPRIATE RESPONSE) (✓)

		Not a Reason 1	Minor Reason 2	Moderate Reason 3	Major Reason 4
	ACADEMIC				
1.	Major interested in not available	☐	☐	☐	☐
2.	Desired courses not available	☐	☐	☐	☐
3.	Desired courses not available at convenient times	☐	☐	☐	☐
4.	Transfer credits were not applied to my major	☐	☐	☐	☐
5.	Course work not challenging	☐	☐	☐	☐
6.	Dissatisfied with major department	☐	☐	☐	☐
7.	Low grades	☐	☐	☐	☐
8.	Dissatisfied with academic advisement	☐	☐	☐	☐
9.	Learned what I came to learn	☐	☐	☐	☐
10.	Found courses too difficult	☐	☐	☐	☐
	EMPLOYMENT				
11.	Conflict between job and studies	☐	☐	☐	☐
12.	Accepted a job and didn't need more college	☐	☐	☐	☐
13.	Did not feel I could find a job in my chosen field of study	☐	☐	☐	☐
	PERSONAL AND FINANCIAL				
14.	Could not afford the loss of income to attend college	☐	☐	☐	☐
15.	Could not afford the cost of commuting to classes	☐	☐	☐	☐
16.	Home responsibilities were too great	☐	☐	☐	☐
17.	Illness, personal or family	☐	☐	☐	☐
18.	Personal problems	☐	☐	☐	☐
19.	Marital situation changed my educational plans	☐	☐	☐	☐
20.	Fulfilled my personal educational goals	☐	☐	☐	☐
21.	Found study too time consuming	☐	☐	☐	☐
22.	College education of little practical value	☐	☐	☐	☐
23.	Other (PLEASE SPECIFY) _____				

20. Please tell us your degree of satisfaction with the following aspects of Cal State Bakersfield. (PLEASE CHECK APPROPRIATE RESPONSE) (✓)

		DEGREE OF SATISFACTION					
		Very Satisfied 1	Satisfied 2	No Opinion 3	Dissatisfied 4	Very Dissatisfied 5	Does Not Apply 6
1.	Academic advising services	☐	☐	☐	☐	☐	☐
2.	Library services	☐	☐	☐	☐	☐	☐
3.	Registration procedures	☐	☐	☐	☐	☐	☐
4.	Financial aid opportunities	☐	☐	☐	☐	☐	☐
5.	Size of the college	☐	☐	☐	☐	☐	☐
6.	College rules and regulations	☐	☐	☐	☐	☐	☐
7.	Scheduling of classes	☐	☐	☐	☐	☐	☐
8.	Course content in your major field	☐	☐	☐	☐	☐	☐
9.	Amount of contact with the faculty	☐	☐	☐	☐	☐	☐
10.	Quality of teaching in your major field	☐	☐	☐	☐	☐	☐
11.	Grading system	☐	☐	☐	☐	☐	☐
12.	Information given to you about the college before enrolling	☐	☐	☐	☐	☐	☐
13.	Appearance of the college buildings and grounds	☐	☐	☐	☐	☐	☐
14.	Variety of courses in your major	☐	☐	☐	☐	☐	☐
15.	General Education requirements	☐	☐	☐	☐	☐	☐
16.	Recreational facilities	☐	☐	☐	☐	☐	☐
17.	Cultural and social opportunities	☐	☐	☐	☐	☐	☐
18.	Problem solving assistance from faculty, staff, and administrators	☐	☐	☐	☐	☐	☐
19.	Intellectual stimulation	☐	☐	☐	☐	☐	☐

21. Please select from the list above the three factors which, if changed for the better, would have most encouraged you to stay at California State College, Bakersfield. (LIST IN ORDER OF IMPORTANCE)

1. _____ 2. _____ 3. _____

If you have any additional comments, please use the following space.

APPENDIX E

Persistence Rates for New Students

CSU Chico

TABLE
Persistence Rates for New Students at CSU, Chico

Admission Category	Time of Admission	Group Size	Percentage Present in Subsequent Semesters 2	3	4	5	6	7	8
First-time Freshmen*	F73	1364	92	76	73	58	55	49	49**
	F74	1286	92	74	70	55	54**		
	F75	1215	90	72	69**				
	F76	1274	89**						
Undergraduate Transfers*	F73	2163	88	73	69	48	38	19	16**
	F74	2372	89	72	67	45	37**		
	F75	2597	87	67	62**				
	F76	2494	85**						
First-time Graduates (Baccalaureate from Chico)	F73	579	84	26	23	12	10	6	7**
	F74	597	81	27	22	9	9**		
	F75	546	77	29	23**				
	F76	437	76**						
First-time Graduates (Baccalaureate not from Chico)	F73	141	85	55	30	19	15	12	9**
	F74	111	76	50	40	27	19**		
	F75	130	78	48	35**				
	F76	138	76**						
Graduate Transfers	F73	138	64	55	42	25	26	5	3**
	F74	98	78	51	36	20	14**		
	F75	126	68	43	32**				
	F76	174	61**						

*The persistence rates for undergraduates consider a student who graduates and then re-enrolls for graduate work at Chico State as not present in those semesters where post-baccalaureate standing is held. These students are subsequently tallied in the above category of "First-time Graduates (Baccalaureate from Chico)".

**Data for the spring, 1977 semester is still tentative. No substantive change, however, is expected.

APPENDIX F

Undergraduate Persistence Rates

CSU Dominguez Hills

UNDERGRADUATE PERSISTENCE RATES

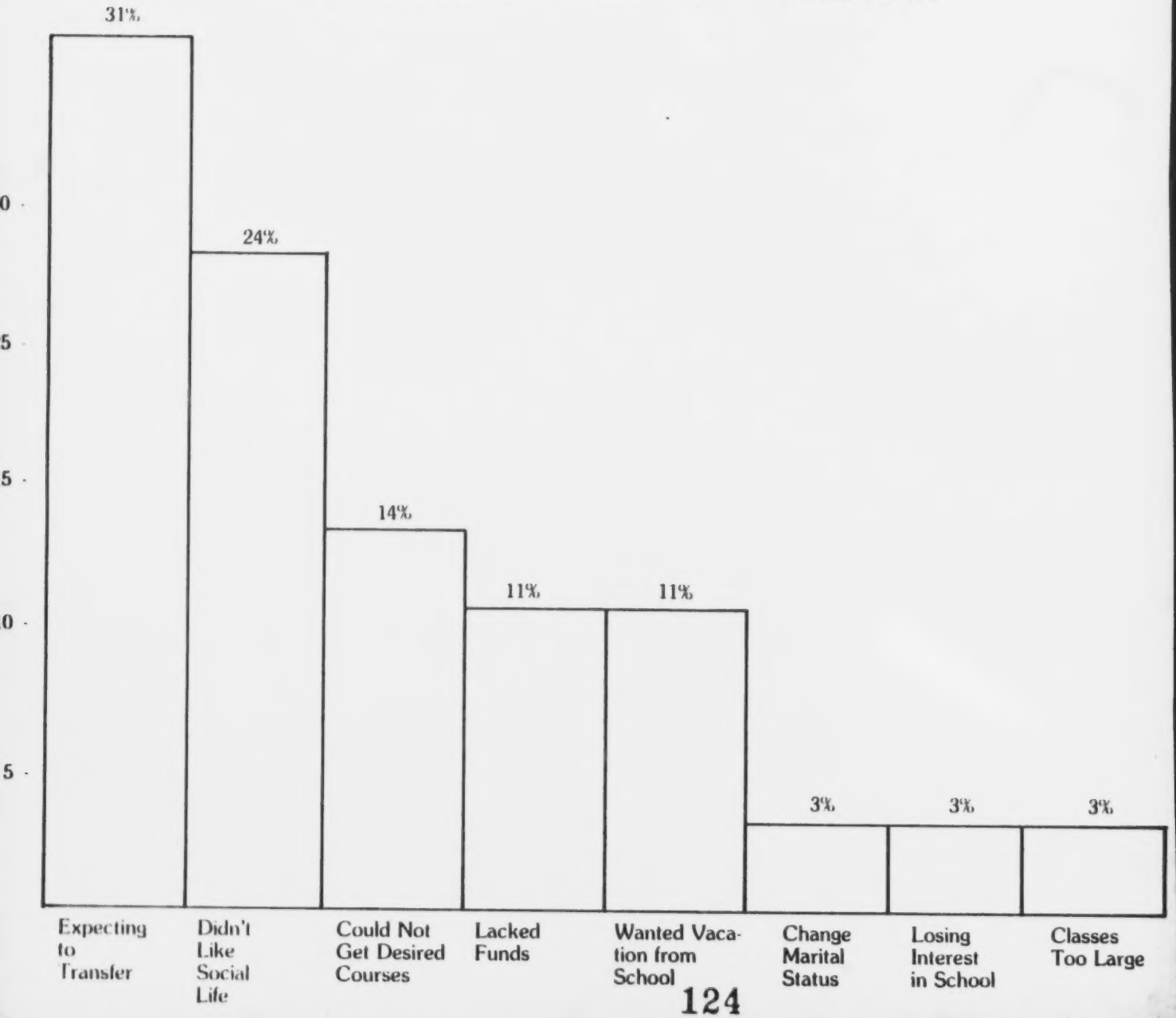
Status at Initial Term	Admit Date	Group Size	Percentage Present in Subsequent Quarters										
			2	3	4	5	6	7	8	9	10	11	12
First Time Freshmen	F-74	310	90	85	72	65	63	52	44	43	39	36	36
	F-75	304	89	84	64	60	56	52	46	40			
	F-76	286	90	86	71	63	59						
	F-77	268	85	75									
Undergrad Transfers	F-74	1214	83	78	67	61	57	39	34	29	21	19	17
	F-75	1456	84	77	65	58	54	41	35	30			
	F-76	1202	81	75	64	56	52						
	F-77	1193	82	73									
Returning Undergrads	F-74	81	69	67	60	48	38	30	27	28	19	17	12
	F-75	86	76	72	48	31	36	28	26	23			
	F-76	91	63	57	52	45	37						
	F-77	92	74	64									
Other Undergrads	F-74	3028	83	77	59	51	46	32	27	24	19	16	15
	F-75	3566	83	75	54	46	41	31	27	24			
	F-76	3623	80	73	56	47	41						
	F-77	3618	80	70									
Total Undergrads	F-74	4633	83	77	62	55	50	35	30	27	21	18	17
	F-75	5412	83	76	57	50	45	35	30	26			
	F-76	5202	81	74	58	50	44						
	F-77	5171	80	71									

APPENDIX G

Reasons Students Give for Leaving

CSU Fresno

MAJOR REASONS WHY STUDENTS IN GENERAL LEFT CSUF



APPENDIX H

Relating with Students - Pilot Program

CSU Fullerton

State of California — California State University, Fullerton

Memorandum

To: — Date: June 7, 1979

From: Richard D. Schulman
Personnel Management Director

Subject: STAFF DEVELOPMENT PROGRAM
RELATING WITH STUDENTS - PILOT PROGRAM

This program is designed for staff employees who have extensive contacts with students as part of their job responsibilities.

The Goals of this Program:

1. Increasing sensitivity to the needs and attitudes of students.
2. Receiving additional information about students.
3. Enhancing present skills for relating with others.
4. Gaining greater recognition of the importance of staff employees in the educational experience of the University.
5. Gaining greater satisfaction and confidence in working with and relating to students and others.

The Format of the Program:

The program consists of nine hours broken up into three three-hour segments. There will be opportunity to receive information, to share experiences, and to participate in exercises designed to increase skills for effective and more satisfying interactions with students.

The Instructors:

Doug Liverpool, Veterans Services
Debbie Pincar, Learning Resources Services

The Participants:

Persons who have extensive and frequent contacts with students and who have an interest in the goals of this program from a variety of different departments and offices. Based upon the feedback received from this initial group of approximately 16 participants, the program will be modified and shortened to six hours for preparation for presentation to a large number of employees who have student contact. The participants will play a key role in helping to make a valuable program for their colleagues and for the benefit of the students. Participants are urged to attend all three sessions.

Location and Time:

University Center, Legislative Chambers; 9:00 A.M. to Noon on Friday, June 15, Monday, June 18 and Friday, June 22, 1979.

NOTE: The instructors will be sending you some additional preparatory materials. If you have any questions or will not be able to attend all sessions, please call Su-shiu in the Personnel Management Office, extension 2425.

cc: Supervisor

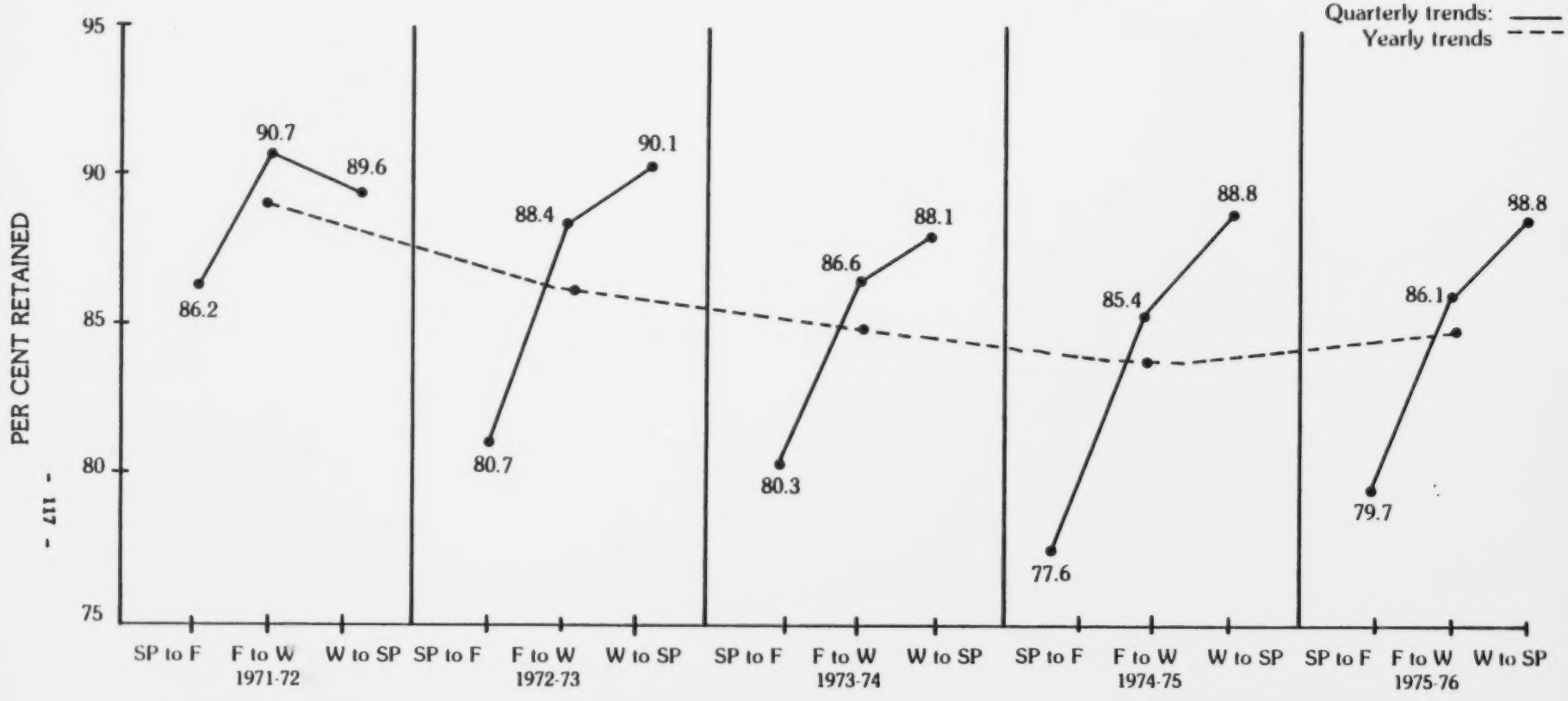
RDS/ssh

APPENDIX I

Selected Retention and Attrition Data

CSU Hayward

CSUH RETENTION RATE FOR THE YEARS 1971-72 THROUGH 1975-76

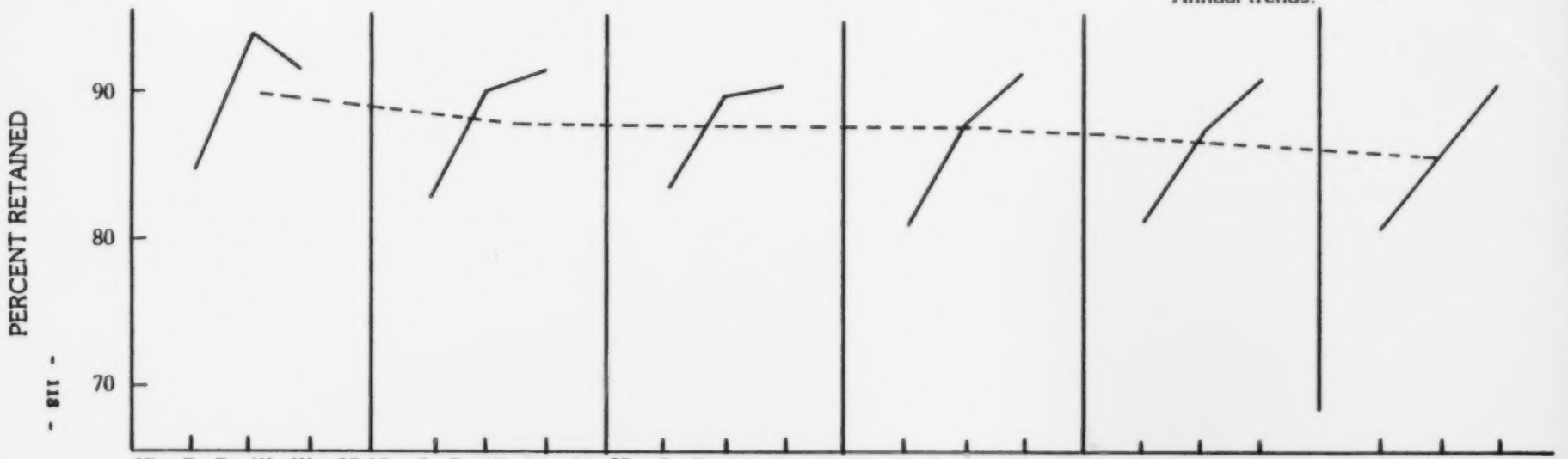


Number of Voluntary Withdrawals	1,292	1,057	1,158	2,046	1,378	1,127	2,029	1,526	1,269	2,212	1,608	1,148	2,028	1,550,	1,173
Average No. of Voluntary Withdrawals Per Quarter		1,169			1,517			1,608			1,656			1,583	
Average Annual Withdrawal Rate		10.97			13.63			15.00			16.03			15.03	
Average Annual Retention Rate		89.03			86.37			85.00			83.97			84.97	

CSUH UNDERGRADUATE RETENTION RATE
1971-72 through 1976-77

UNDERGRADUATE

Quarterly trends: ——
Annual trends: - - - -



	SP to F	F to W	W to SP	SP to F	F to W	W to SP	SP to F	F to W	W to SP	SP to F	F to W	W to SP	SP to F	F to W	W to SP	SP to F	F to W	W to SP
		1971-72			1972-73			1973-74			1974-75			1976-77			1975-76	
Number of Voluntary Withdrawals	1267	572	760	1429	936	780	1363	925	821	1428	1019	688	1327	1112	700	1344	1020	726
Average No. of Voluntary Withdrawals Per Quarter		866			1048			1036			1045			1046			1030	
Average Annual Withdrawal Rate		10.4			12.2			12.9			13.8			14.6			14.0	
Average Annual Retention Rate		89.6			87.8			87.1			86.2			85.4			86.0	

REASONS FOR ATTENDING CSUH*

	REASONS	DROPOUT SAMPLE		CONTINUING SAMPLE	
		Undergraduate (N=199) %	Graduate (N=95) %	Undergraduate (N = 126) %	Graduate (N=42) %
PRACTICAL	Closeness, Convenience	86.4	82.1	80.2	73.8
	Cost	18.6	20.0	31.7	9.5
	Total students expressing practical reason(s).	89.9	87.4	86.5	81.0
ACADEMIC	Reputation of school, department or faculty.	23.1	22.1	24.6	26.2
	Special Curriculum	7.0	10.5	2.4	16.7
	Total students expressing academic reason(s).	35.7	41.1	31.7	50.0
SOCIAL/EXTRA-CURRICULAR	Total students expressing social/extracurricular reason(s).	9.0	4.2	11.1	4.8
ADMINISTRATIVE	Total students expressing administrative reason(s).	6.5	8.4	5.6	9.5
OTHER	Total students expressing other reason(s).	6.5	7.4	4.8	7.1

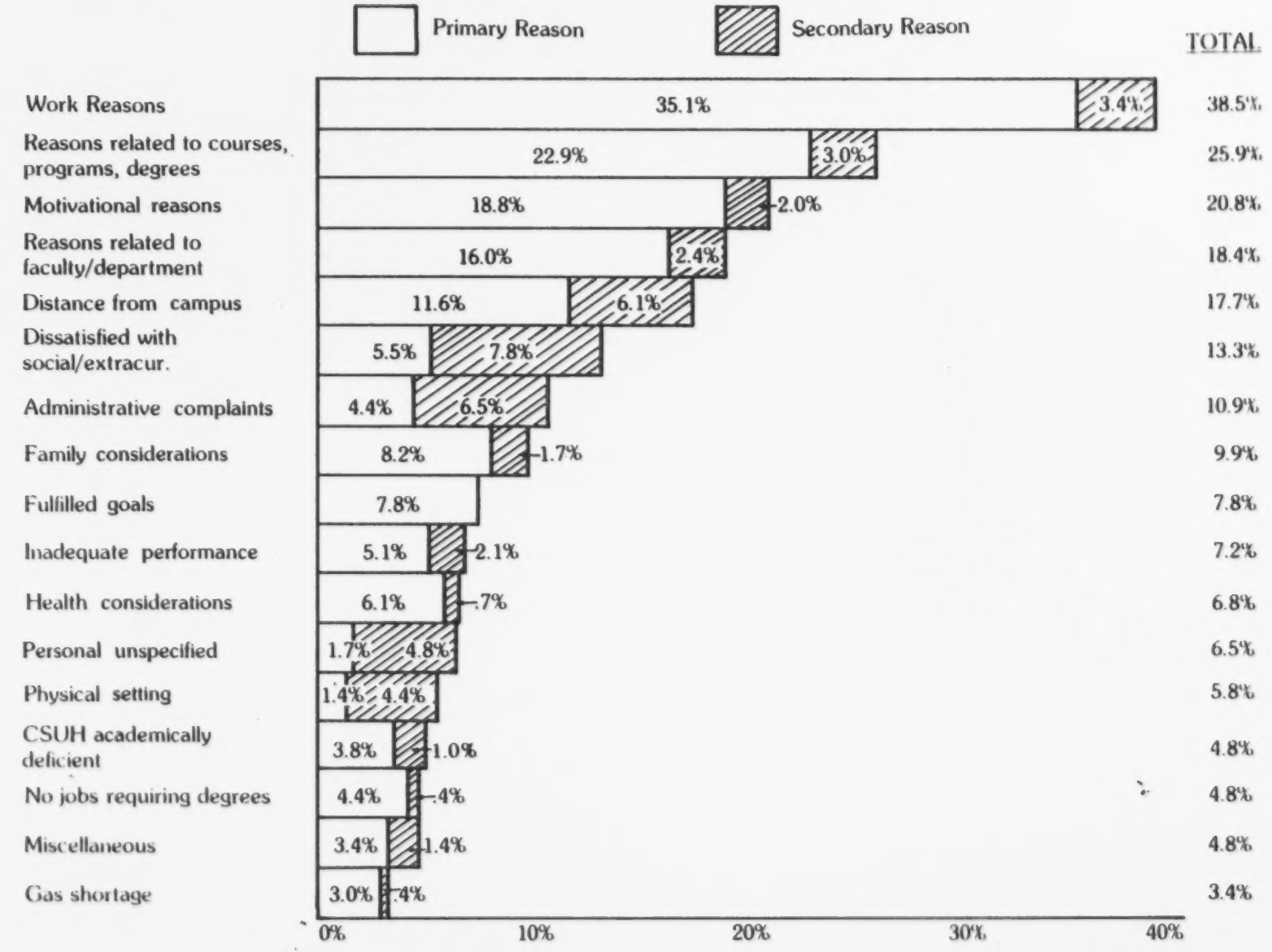
**Question:* *"What were your reasons for originally coming to Cal-State?"*

RESERVATIONS ABOUT CSUH*

RESERVATIONS		DROPOUT SAMPLE		CONTINUING SAMPLE	
		Undergraduate (N=199) %	Graduate (N=95) %	Undergraduate (N=126) %	Graduate (N=42) %
NO RESERVATIONS	Total students expressing no reservation(s).	76.9	75.8	67.5	61.9
PRACTICAL	Total students expressing practical reservation(s).	2.5	2.1	4.0	7.1
ACADEMIC	Total students expressing academic reservation(s).	7.5	9.5	7.9	19.0
SOCIAL/EXTRA-CURRICULAR	Total students expressing social/extracurricular reservation(s).	6.5	2.1	7.9	4.8
ADMINISTRATIVE	Total students expressing administrative reservation(s).	2.0	3.2	.8	--
OTHER	Total students expressing other reservation(s).	3.5	6.3	2.4	2.4
NO PREVIOUS KNOWLEDGE	Total students with no previous knowledge of CSUH.	4.5	5.3	7.9	9.5

*Question: *"Did you have any reservations about Cal-State before you came?"* If yes, *"What were they?"*

REASONS FOR LEAVING CUSH N = 294



DISTRIBUTION OF PLANS FOR FUTURE EDUCATION*

	DROPOUT SAMPLE					
	Undergraduate (N=199)		**Graduate (N=95)**		**Combined (N=294)**	
	f	%	f	%	f	%
Yes	161	80.9	68	71.6	229	77.8
Maybe	22	11.1	13	13.7	35	11.9
No	14	7.0	11	11.6	25	8.5
No Response	2	1.0	3	3.2	5	1.7

***Question**: "Are you planning to continue your education?"*

CONTINUATION RATES OF FALL 1973 FIRST-TIME FRESHMEN BY SEX AND ADMISSION GROUP

	Admission Group	Sex	Number Enrolled Fall 1973	Enrolled Fall 1974 Number	Enrolled Fall 1974 Percent of Fall 1973	Enrolled Fall 1975 Number	Enrolled Fall 1975 Percent of Fall 1973	Percent of Fall 1974
	Regular	Male	8,699	6,307	73	4,939	57	78
(RA)	Admits (1)	Female	10,284	7,494	73	5,722	56	76
		Total	18,983	13,801	73	10,661	56	77
	Disadvantaged	Male	1,115	614	55	408	37	66
(DE)	Exceptions (2)	Female	1,194	713	60	494	41	69
		Total	2,309	1,327	57	902	39	68
	Nondisadvantaged	Male	552	347	63	251	45	72
(NE)	Exceptions (3)	Female	235	148	63	98	42	66
		Total	787	495	63	349	44	71
	Total First-	Male	10,366	7,268	70	5,598	54	77
	Time Freshmen	Female	11,713	8,355	71	6,314	54	76
		Total	22,079	15,623	71	11,912	54	76

1 - Admitted with Admissions Basis Code - A, B, C, D, F, G

2 - Admitted with Admissions Basis Code - I

3 - Admitted with Admissions Basis Code - H, E

APPENDIX J

Selected Attrition and Retention Data

Humboldt State University

GRADUATION AND DROPOUT RATES OF FIRST-TIME FRESHMEN WHO ENTERED HUMBOLDT STATE UNIVERSITY IN 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, and 1972

TABLE #1

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Number of Students	500	466	544	435	490	519	597	625	486	594	748
Graduated by End of:											
Fourth Year	6%	8%	11%	16%	23%	22%	18%	16%	15%		8%
Fifth Year	19	24	28	34	40	40	36	35	32		22
Sixth Year	23	28	33	41	45	42	41	41	37		30
Seventh Year	25	31	35	41	46		42	43		37	
Eighth Year	26	33	35	42			44				
Ninth Year		34	36								
Tenth Year		35									
Dropped Out by End of:											
First Year	35%	27%	25%	23%	15%	21%	18%	16%	18%	21%	22%
Second Year	51	44	43	39	31	33	29	30	34	34	40
Third Year	63	54	52	47	39	39	39	40	44	46	52
Fourth Year	69	59	56	50	44	45	47	47	49	52	60
Fifth Year	71	60	58	54	46	49	50	51	54	55	64
Sixth Year	73	62	60	55	50	51	52	53	57	58	64
Seventh Year	68*	64	61	55	51		53	54		60	
Eighth Year	69	64	62	56			54				
Ninth Year		64	62								
Tenth Year		64									

RAA:jh
2-28-79

*28 students reentered after "stopping out."

GRADUATION AND DROPOUT RATES OF LOWER DIVISION TRANSFERS WHO ENTERED HUMBOLDT STATE UNIVERSITY IN 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972

TABLE #2

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Number of Students	141	160	220	182	190	323	520	445	372	356	396
Graduated by End of:											
Third Year	22%	19%	19%	24%	34%	41%	32%	32%	36%	28%	28%
Fourth Year	35	41	40	41	48	55	46	44	47	40	41
Fifth Year	43	50	52	49	52	61	52	49	51	45	46
Sixth Year	45	51	55	52	56	62	55	51	53	47	47
Seventh Year	48	53	56	54	58		56	53		47	
Eighth Year		53	57	56			57				
Ninth Year		54	57	59							
Tenth Year		56									
Dropped Out by End of:											
First Year	28%	26%	24%	25%	24%	24%	17%	20%	20%	24%	27%
Second Year	40	36	33	35	32	30	29	31	31	35	37
Third Year	47	39	38	38	34	32	35	37	36	42	44
Fourth Year	48	42	40	38	38	34	38	41	39	47	48
Fifth Year	50	42	40	40	39	35	39	44	43	49	50
Sixth year	52	42	40	40	41	36	41	45	44	50	50
Seventh year	52	43	41	41	41		42	46		51	
Eighth Year		44	42	41			42				
Ninth Year		44	43								
Tenth Year		44									

RRA:jh
2-28-79

GRADUATION AND DROPOUT RATES OF UPPER DIVISION TRANSFERS WHO ENTERED HUMBOLDT STATE UNIVERSITY IN 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, and 1972

TABLE #3

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Number of Students	123	171	197	234	287	326	448	391	315	365	610
Graduated by End of:											
Second Year	31%	19%	24%	25%	26%	25%	28%	29%	32%	29%	26%
Third Year	67	57	61	61	60	60	57	61	58	55	53
Fourth Year	72	62	68	67	67	65	63	66	63	63	63
Fifth Year	76	64	73	70	69	68	65	69	67	67	65
Sixth Year	76	65	75	71	71	69	66	70	68	68	67
Seventh Year	76	67	75	71	71		67	70		69	
Eighth Year	76	67	76	72			67				
Ninth year		68	76	72							
Tenth Year		68									
Dropped Out by End of:											
First Year	15%	19%	15%	22%	20%	22%	18%	15%	14%	15%	18%
Second Year	19	27	21	26	24	25	24	20	14	23	24
Third Year	21	29	22	26	26	27	28	25	19	25	29
Fourth Year	22	29	23	26	26	28	29	26	27	27	31
Fifth Year	22	30	23	27	27	29	31	26	31	29	32
Sixth Year	23	31	24	27	28	30	32	27	32	30	32
Seventh Year	23	32	24	27	28		32	28		30	
Eighth Year	23	32	24	28			32				
Ninth Year		32	24								
Tenth Year		32									

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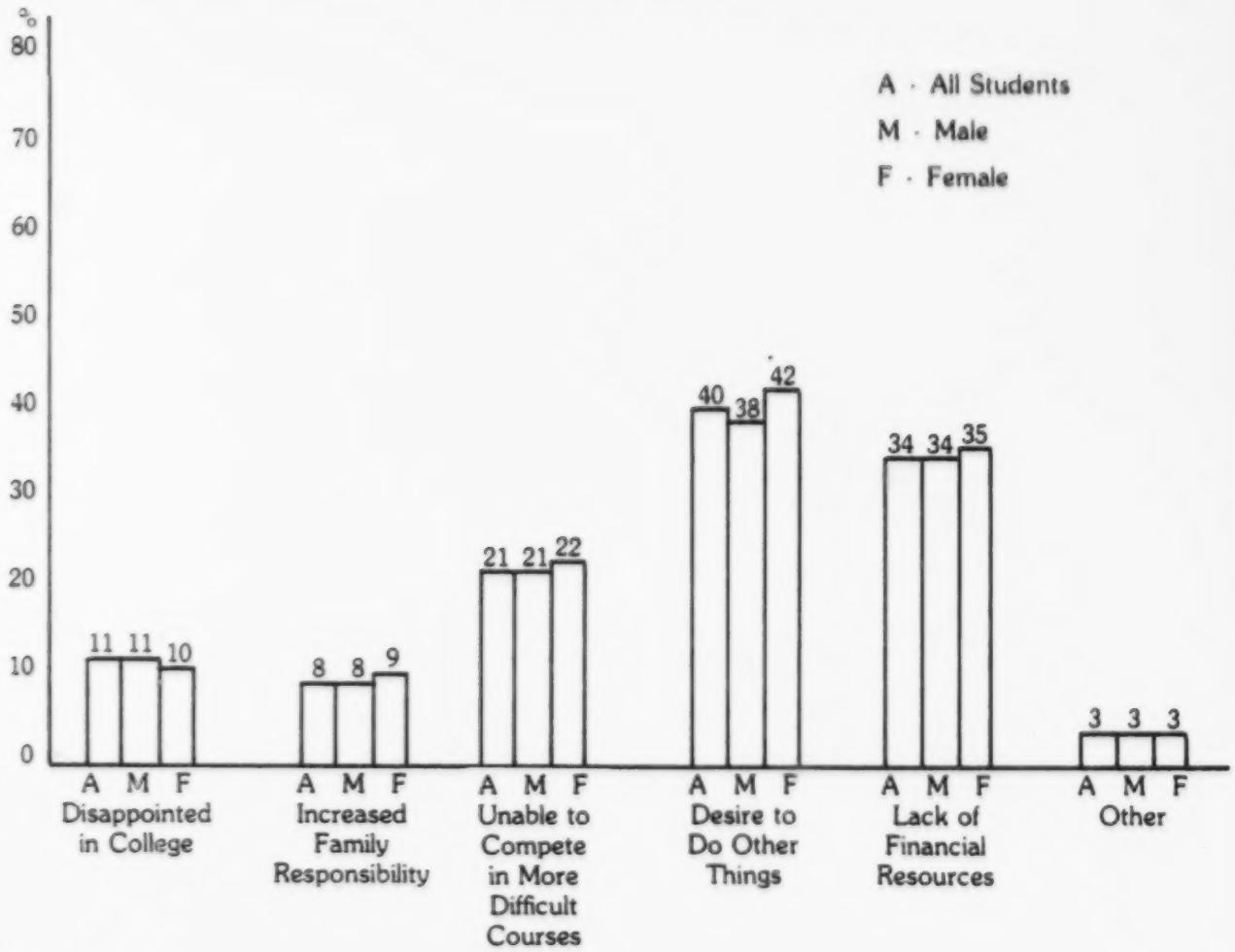
2-28-79

IF I DROP OUT

Fall 1978 Group



Summary of Recent Trends in "If I Drop Out"					
	Disappointed in College	Increased Family Respon.	Unable to Compete in More Diff. Courses	Desire to Do Other Things	Lack of Financial Resources
1973	12%	5%	12%	43%	28%
1974	12%	5%	13%	44%	26%
1975	16%	6%	17%	43%	32%
1976	13%	5%	19%	39%	32%
1977	12%	7%	18%	39%	34%

APPENDIX K

Student Withdrawal from CSU Long Beach
Fall 1978

State of California

Memorandum

To: President Horn
Vice President Adamany
Vice President Gray
Vice President Shainline
Dr. Asher

Date: April 25, 1979

File No.:

From: **CALIFORNIA STATE UNIVERSITY, LONG BEACH** Robert T. Littrell, Director
Institutional Research

Subject: Student Withdrawal from the University and Classes, Fall Semester 1978

I have attached the subject study. The findings are summarized as follows:

1. Of the responders, it was estimated that 40% of the students who did not receive units in C.A.R. and failed to pursue their registration could have been retained if they had sought appropriate counsel.

2. Of the responders, it was estimated that 10% of the students who withdrew prior to census, after having registered, could have been retained if they had sought appropriate counsel.

3. Students who registered in person,
   a. on the average increased their unit loads from initial registration to census (9.05 to 9.26);
   b. accc nted for 1,530 additional units (102 FTES) from their initial registration to census;
   c. approximated the same behavior in the Fall as in the Spring.

4. Students who registered in C.A.R.,
   a. had the highest complete withdrawal proportion from the University;
   b. on the average decreased their unit loads from initial registration to census (11.57 to 10.88);
   c. accounted for 15,429 fewer units (1,028 FTES) from their initial registration to census;
   d. approximated the same behavior in the Fall as in the Spring.

5. Approximately 33% of the complete withdrawals from the University were attributed to health and different types of disqualifications.

Conclusions and Recommendations:

There has been a persistent finding throughout the years, as we have studied attrition, that the lack of student-faculty identification and interaction on a personal basis has resulted in losses that are avoidable. We note further, that of the first five responses received this date from the Fall entering, first-time Freshmen who were sent the Student Involvement Questionnaire, none has had a single conversation with an academic advisor after two semesters.

APPENDIX L

THE MYTH OF THE STEADY STATE

Comments on the Prospects for Change, 1974

David E. Gray
Vice President for Administration
and Staff Coordination

California State University, Long Beach

September, 1974
(revised)

The dream of a constant cycle of growth climbing its exponential curve and pulling everything up with it, dies hard. It is still with us while the evidence against it is overwhelming. The reality is that the California State University and Colleges System has already rounded the "S" at the top of the curve and is headed downward; where the system has gone we are likely to follow. That has enormous implications for the University and for those who devote their lives to it. What response we should make to this changing state of our affairs—though a puzzling question—is not beyond all conjecture. The following proposals are one man's view.

There is much talk these days of a "steady state" which is the catch phrase for declining enrollment pressures in the State University and Colleges System. The steady state is a myth. In reality, the system and this University are caught in a vast pattern of social and technological forces largely beyond our control. The only promising strategy for survival is to recognize these forces, to assess their import, and to adapt to the new conditions. Some of these forces and a proposed method of adapting to them are the central themes of the following discussion.

Alvin Tofler speaks of a "novelty ratio" as a measure of the newness of a product line, technology, plant, or administrative routine. Under this concept a product line which has nine old products and one new one has a novelty ratio of 9:1. There may be periods in organizations, or units within organizations, when the novelty ratio is very high and there may be periods of routine where it is low. Policy shifts, new personnel, new leadership, new technology, altered clientele, changes in the law, new programs, altered resources, dynamic social and political environments, competitive pressures, and other forces are the agents of rising novelty ratios. All of these have been influencing the University during the past year; they are expected to operate at a more rapid rate in the years ahead. Higher education is now nearly four years into a period of instability. Internally, with respect to programs, methods, and organizational structures, routine responses are less and less effective. Externally, the University exists in an unstable environment politically, socially, and economically. The most predictable trend appears to be toward higher novelty ratios in the external environment. If this trend is not matched by higher novelty ratios in internal affairs, increasing irrelevance and decreasing organizational health are the likely results.

In this era, fewer decisions can be trusted to routine response. Policies must be more flexible and revised more frequently; the response time of the institution to new situations must be shortened; collection and analysis of information about the functioning of the organization and the changes going on in its environment must be continuous, and these data must be introduced into the decision-making process. Program managers must be capable of non-programmed response to change. New responses to new situations must frequently be invented. This is the milieu in which the University must operate. There are a large number of situations in which implementation of an existing procedure can lead to failure.

The lengthy period of student unrest that marked the late sixties had as one of its objectives revision of the University to make it more responsive to student needs and wishes. Some observers would hold that higher education was significantly altered during that period, but most would argue that at the end of the bombings, the confrontations, the marches, and the more subtle social frictions which attracted so much attention, the fundamental assumptions of the traditional University, and the procedures and behavior that stem from them, came through intact. The lives of the students, their educational programs, and the methods used to teach and support them did not change very much.

What was not accomplished in the sixties by confrontation, is now going on in the seventies through the more subtle process of student choice. The choices students are making today do not distribute themselves in the pattern we had come to consider as the natural order of things. We are learning that the long lever of student decision, operating on the fulcrum of economic necessity, produces forces that are remaking the University. Where the students go, the resources follow!

Competition Invades the University

The colleges and universities of the nation have "saturated the market" for traditional undergraduate education. It is highly unlikely they will ever again serve as large a share of the "postsecondary" education enrollment as they did in the 1950-1970 era. In 1950, there were relatively few colleges and universities operating in America; today there are thousands, including 69 or more degree-granting institutions in the Los Angeles County alone. These institutions are competitive for attention, for students, and for financial support. In addition, there are a growing number of proprietary schools that fit under the "postsecondary" rubric which are also seeking attention, students, and financial support. They also are competitive with our University.

Not all of the competition comes from colleges, universities, and proprietary schools; some comes from the mass media. Competition in the domestic satellite field is great and growing. It appears likely that these devices and cable television will grow into a highly complex and diversified network capable of highly specialized programming. The capacity of these channels will greatly exceed entertainment demands and additional applications will be sought. Education is an obvious field of service. Educational software will be pakaged for a national, or even an international market via the media. We have not developed any production capability in enterprises of this kind, and the expertise and enormous capital required make it highly unlikely that we will have a substantive role in these developments. Our role will be in tailoring educational experience for face-to-face clientele in ways that cannot be duplicated in mass media. A variety of delivery systems can be anticipated. These experiences are not apt to be centered around the transfer of information; they are apt to be in experiential learning in which the psyche of the learner is deeply involved and personal contact is a primary element. It appears that marking this kind of instruction out for development, as our special area of competence, is a necessary first step in evolving an effective competitive strategy. This is a format in which we are potentially able. When fully developed, it will provide a competitive advantage that may be very important.

Recommendation 1
Request the Academic Senate to appoint several members of the faculty to join several members of the administration in a task force to inventory existing programs of learning based on experience and to identify methods of implementing experiential learning in appropriate programs throughout the University

Other significant advantages we have in the competitive market in which we are now operating are "price" in terms of money extracted from the student and our location which permits many to attend the University without the economic burden of maintaining existence away from home. There are forces at work to neutralize the price advantage. The most obvious effort to equalize the competitive positions between the public and private sectors is the current nation-wide drive to raise tuition in public institutions. Some highly influential voices have advocated tuition equal to half the costs of providing a college education for students enrolled in publicly supported colleges and universities. There is a very good chance that drive will achieve its intended result.

More obscure but also more significant, perhaps, is the policy decision of the federal government to provide aid to higher education through the student instead of allocating it directly to institutions. A student who receives a "basic opportunity grant" has a much wider series of options than one who must stay in a public institution to gain the benefits of subsidy by the public.

These two developments will not completely balance the competitive economic factors in seeking enrollment, but if tuition is adopted, it will rapidly alter our competitive position. The second element in our competitive strategy must be to articulate the virtues of a tuition-free education not only for the recipients, but also for society. The effort already begun by President Horn must be expanded and carried out by the full resources of the University community.

Recommendation 2
Request the Academic Senate to appoint several members of the faculty to join several members of the administration in a task force to monitor the drive for tuition in public institutions and to recommend a public information campaign in support of tuition-free education in California.

The Institution at the End of the Decision Tree

Never in the history of higher education has the opportunity for student choice been higher than it is today. America built the physical plants, prepared and assembled the faculties, organized the curricula, and provided the support services for the lump in our demographic profile created by the "post-war baby boom" following the Second World War. That temporary aberration in our youth population has now passed through the 18-22 year age span from whom many of our traditional college population have been drawn. It leaves behind it many empty chairs in our colleges and universities, and a few vacant institutions. With the exception of a relatively few impacted programs, it also leaves a legacy of wide choice for those who now wish to follow a "postsecondary" education.

Granted increased opportunity, freedom from family pressures, and an end to the draft that force-fed the nation's colleges and universities throughout the fifties and the sixties, an aware individual graduating from high shool today is presented with the array of choices depicted in Figure 1. It is apparent that this University lies at the end of a decision tree that offers substantial opportunity to make choices that would take the individual into other institutions or directly into the world of work with no formal education beyond high school. With the exception of a decision to go to a community college, choices made on the left of the dichotomies take the potential student out of our University. The following data appearing in Table 1 reflect the pattern of choice in the recent history of the system.

Following admission in this University, the student has another series of choices to make including: major, option, program, specific classes within programs, and sections within classes. The series of decisions that brings the new high school graduate into a specific section in our University is a long one. It is a decision chain that many graduates are poorly prepared to follow; in the absence of competent advice, very few young people leaving high school really understand what their options are.

TABLE 1

First-time Freshmen from California High Schools Attending California Public Colleges and Universities

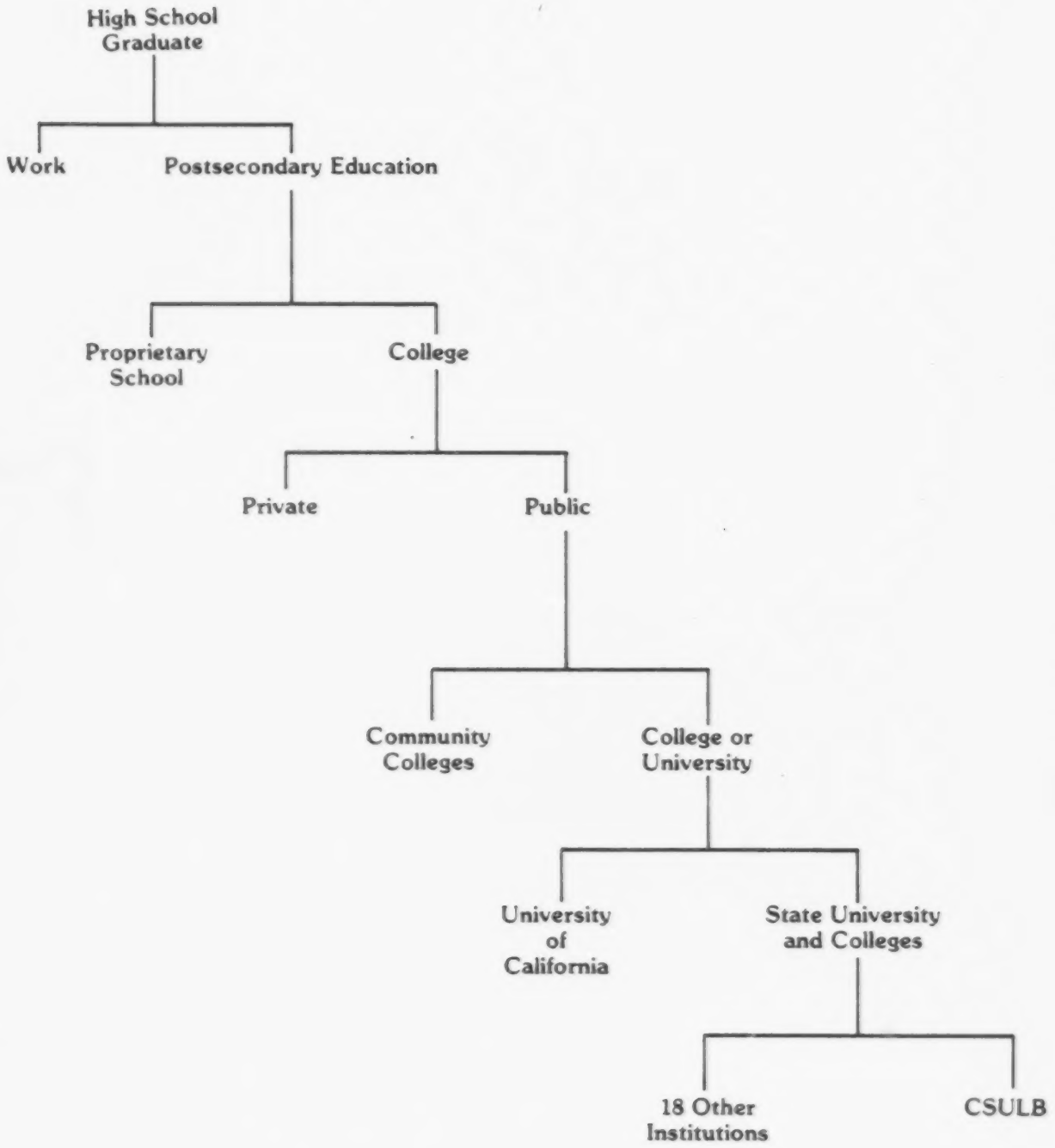
Rate Per 1,000 High School Graduates

	1966	1967	1968	1969	1970	1971	1972	1973
CSUC	63	63	73	66	68	68	76	77
CCC	424	436	446	456	460	456	418	418
UC	50	51	45	45	47	48	49	52
Total	537	550	564	567	575	572	543	547

The perceptions and forces operating on these decisions are myriad including many that are extraneous to the education process. The full range of considerations probably cannot be identified, but it is possible to speculate on some of the factors that could be significant. Assuming reasonable information and decisions based on anticipation of potential educational experiences (in contrast to personal attachments, the wish to leave home, or other personal reasons not directly related to education), students can be expected to opt for:

1. Educational experiences that have immediate relevance for them.
2. A social climate that recognizes them as individuals and provides stimulating and supporting relationships.
3. Educational experiences that offer opportunity for them to develop their own perceptions, skills, and abilities.
4. Educational experiences which provide for the discovery of knowledge and learning about the world through active involvement.
5. Educational programs which view the areas of education, including interpersonal communication skills, personal motivation, and inner-personal consciousness as important aspects of the learning process.
6. Experiences in which instruction is of primary importance in the mind and attitude of the professor.
7. Educational experiences which are based upon the principle that individual growth needs are more important than the preservation of institutional models.

FIGURE 1
Alternative Futures Decision Tree



8. Academic programs in which they feel they have some responsible involvement in the decisions that direct and shape their own education, and a full partnership in the learning process.
9. Educational programs characterized by effective advisement, career information, and planning opportunities.
10. Educational programs which provide for experiential learning in the community in which the student integrates the academic experience with off-campus learning opportunities, enhancing the meaning of the academic experience.
11. Educational programs in which they have flexibility to select a number of courses of their own choosing from electives which are not predetermined by their major field of study.
12. Educational programs in which development of students is the central goal.

If students begin to make these discriminating choices in substantial numbers, a fundamental revision of the goals and the most basic processes of the institution is inevitable. Such choices call into being a new set of assumptions about the nature of the University, its mission, and the methods that characterize it.

Recommendation 3
Request the President to commission a study to investigate what students want from their learning experiences and the factors which influence choices of institutions, major programs, classes, and section.

In the current search for new areas of service, most institutions are trying to attract adult students.

Serving the Adult Student

Higher education is a voluntary activity carried on in a marketplace of attractive alternatives. Nowhere else is the number of alternatives higher than it is in the field of adult education. The lifelong learning concept has been with us a long time. In this century, it has led to a vast array of educational opportunities in public and private secondary schools and colleges, in extension, in proprietary schools, and most recently in media programs carried on in the "university without walls" format. The decline in the number of young people of traditional college age has sharpened the interest of collegiate institutions and universities in adults. Many institutions see the adult as the source of enrollment relief but it is unlikely there will be enough adults willing and able to participate in these programs to fill all of them. The programs that survive will be highly adept at reading adult student needs and interests and catering to them. Adults usually elect to return to college to enter programs which provide cultural enrichment, professional development, insights into public affairs, or discussion of urban problems. Those who participate in adult education programs are usually people with some college experience, from white collar occupational groups, and from urban or suburban areas. Some return for specific instruction offered in short-term formats, others seek a degree. Among those in pursuit of a degree, some will be learning for its own sake; for them the degree is symbolic. What interests them is a systematic, sequential, rigorous course of study that will challenge their abilities and enlarge their understanding of themselves and the world. In our University, however, a greater number will be seeking a degree in a field related to their life goals, particularly a career. They seek learning which can further an existing career or provide entry level competence for a new career. Both of these groups will seek experiences that have meaning in their current lives. The middle-aged among them, particularly, are not preparing for some obscure, remote tomorrow; they have little time to wait; for them the future is now. They will attend the institution that meets their needs.

The highest cost, and the one least likely to enter calculations on the economics of higher education, is the value of the student's time. Occasionally, there are passing references to the value of "foregone income" in estimates of the value of a college education, but in most calculations the time contributed by the student to the educational enterprise goes unreported. In spite of this neglect, it is evident that student time is a very high cost of education. If the time of the traditional 18-22 year old student is valued at $3.00 per hour, the investment in a four year baccalaureate degree is $19,000 to $20,000. This sum far exceeds the cost of tuition which would approximate about $8,000 for the same program at CSULB. When the student changes from young people who are in a pre-career period of their lives, to adult students in mid-career, these costs are

dramatically higher. If an average figure of $7.00 an hour is assumed, the time cost of a baccalaureate degree for a mid-career adult becomes $44,000 to $45,000.

The value of student time must enter the considerations taken into account as new courses and schedules are planned and new support services are established. Standing in lines for services, commuting times that exceed instructional time in loosely scheduled courses, "busy work" in class assignments, and other obvious wastes of student time are now so costly they clearly will not be tolerated. That is a reality the University must adjust to quickly. The old system of optimizing faculty and staff efficiency, and requiring the student to adjust this schedule to that reality, cannot survive.

The value of student time will rise and methods of optimizing their time must be sought, even at the cost of less efficient utilization of faculty and staff time. The number of routine transactions and routine decisions will decline. This will make more sophisticated management a necessity. We have already passed our peak of standardization and we are moving toward a more customized educational program for each student. The adult student will require better service and a more individualized response.

Higher education in America is increasingly the education of adults. This growing trend is expected to continue. The adult requires a different kind of educational opportunity that the traditional student. University programs designed for the young student do not serve the adult well. Adjustments in structures, schedule, and curriculum are necessary. For some groups, a whole new educational program may be required. Adult students will not only require new instructional modes, they will require new services and new administrative routines as well.

Women attending college for the first time, women returning after a long absence from academia, and men changing careers in middle life are in a foreign environment. The feeling that they cannot compete with the alert young people who are their classmates is commonplace. The risk factor in failure is higher for the adult than for the young person. The youth is known to be an apprentice just starting out; the adult, in contrast, has an image of competence to maintain. For the adult, dropping a course is not seen as the casual act many young people perceive it to be. The adult may find it an experience intimately wound up with a personal image of competence and self-worth.

The adults sharing a class with young students are very aware of being middle aged; they are not used to being questioned or tested. They want to be recognized as mature, experienced people. They have low tolerance for red tape or frustration. They want some independence and a voice in the decisions that govern their academic programs. They want information that is useful, opportunity for self-expression, and active participation in the instructional process. They need a climate of acceptance.

The devoted housewife and mother who has grown children is subject to the "emptiness syndrome" in which the individual is faced with developing what is essentially a new lifestyle and identifying a new life purpose. This is a mid-career change of employment that has some marked parallels to the experience of men who, suddenly in mid-life, must develop a new career.

The impact of the women's rights movement on higher education in the future may be great. It has already pioneered a value system and several life style models that bring women out of the home into more public life roles. The proportion of female students will probably creep up in the next few years as women seek professional outlets for their talents that require collegiate preparation. There are in the population, a large number of women who no longer have small children in the home and who could devote a substantial amount of time to college work if the problems of economics, access, and interest can be solved.

Early retirement, both forced and voluntary, is a growing reality which may leave the individuals unimpaired in skills and abilities with no arena in which to apply them. The next crisis time for many people is that time immediately preceding retirement. They, too, are faced with a major life adjustment. Here the concept of life enrichment is important. If latent desires for the time and opportunity to follow a strong interest can now be rekindled, the opportunity for highly satisfying intellectual achievement may be at hand.

Revisions in existing programs or development of new ones specifically for older students, must be based on a careful assessment of the needs and wishes of adult students including preferred time, place, and methods of learning. In spite of an excellent record in serving adults, the University does not know as much about this field of service as it needs to know.

Recommendation 4
Request the President to commission a study of the special needs of the adult student and seek recommendations on the changes necessary in our University to be more responsive to those needs.

The challenge of serving the adult student may be to identify educational needs and wishes for individuals or very small groups and develop a delivery system that is economically feasible. The only real path to improved cost effectiveness in the past has been through an increase in class size, or mass media. In the future, highly individualized programs which involve self-pacing technology, volunteer service, peer interaction that is self-formulated, led, and appraised may be feasible.

Research on participation in adult education programs has identified a complex pattern of factors that influence enrollment among potential population sub-groups including sex, age, social class, previous education, self-concept, aspiration level, and participation rates of primary reference groups. The implication that emerges is that the sophistication of promotional efforts must match the subtlety of this pattern.

Recommendation 5
Request the Academic Senate to appoint several members of the faculty to join several members of the administration in a task force on services for adult students and charge it with development of a program of promotional strategies designed to attract the adult.

Toward a Model for the Evolving University

The future of the University may depend on marking out a special area of competence in the spectrum of postsecondary educational programs and establishing a reputation for: (1) effective response to student need; (2) helping students become competent and confident; and (3) being highly efficient to the use of resources. The implications of the forces for change are that we must become a substantially different University through a process of rather rapid adjustment. The only scenario for the future that clearly cannot be sustained is maintenance of the status quo. No comprehensive model of the evolving University exists but some elements of it can be seen in examining some of our basic assumptions.

The assumptions which guide an institution are often unarticulated but they become the basis for operating procedures, decision-making, evaluation, patterns of personal relationships, organizational arrangements, and other fundamental processes. The assumptions which underlie our operations are changing. Some of the new assumptions arise from within the institution itself; some are thrust upon us by outside forces. The following pages set forth a potentially controversial list of some of the basic assumptions that appear to have influenced our institution during the 1960's and a contrasting set that may be influential in the 1970's. Collectively, the 1970 assumptions mark a substantial departure from our traditions. If they, in fact, operate as our basic assumptions, they will be both a product of change and an agent of change.

ASSUMPTIONS OF THE UNIVERSITY

1960 and 1970

Assumptions of the Sixties

A college education is a good thing for everyone who has the ability to complete an academic program; support can be assumed; the University can function in isolation; the social and political environment of the University is stable.

Growth of the institution is a good thing; growth is obtained by adding additional units of the same basic kind; growth will continue indefinitely.

A standardized program of relatively fixed design and made up of a large proportion of requirements and a few electives, is the optimum educational program; the faculty knows best what the student requires.

The role of the faculty member is to plan educational programs, provide current information, evaluate student progress.

Education is synthesis of a body of knowledge that can sustain a broad professional and personal life.

A college education is so important that access to it should be provided at public expense without regard for the economic condition of the students or their families.

Admission of students should be limited to those who ranked in the highest third of their high school class academically, and to those who have demonstrated ability to do satisfactory college work in a community college.

Counseling consists primarily of academic advisement, career exploration, treatment of learning disabilities and mental health; clinical counseling is based on a medical model.

Faculty and staff come to the University fully prepared for service; their skills and knowledge will remain adequate and relevant throughout their career; the institution has little responsibility for further development.

Organizations, like people, follow a fairly predictable life cycle from infancy through old age; we are a young institution; we do not yet have the rigidities of old age; renewal is a natural process which occurs automatically.

Students should be brought to the campus for educational programs; the campus should be insulated from the community in a tranquil, parklike setting; college years are a time for thinking, learning of skills; college is preparation for the real world.

Assumptions of the Seventies

A college education is not necessary for a good many respected, essential social roles; the value of a college education has been oversold; support must be earned; the University is intimately involved in the society; the social and political environment is dynamic.

Economics of scale and increased quality are not inevitable in growth; future growth will not necessarily be in units of the same kind; increasing complexity is likely; we may be at or near our full size.

There must be greater flexibility to "customize" educational programs for each individual; each student must take more responsibility for his own education; there may be as many educational programs as there are students.

The role of the faculty members is to plan educational experiences to facilitate learning, aid human development, help the students evaluate their growth and progress.

Education consists of mastery of ways of thinking and generic skills of gathering and ordering data, analysis, synthesis, inductive and deductive reasoning, problem solving and communication to sustain a broad professional and personal life in a world of accelerating change.

Those who are able to contribute to the costs of a college education should do so; a small number of students who are economically disadvantaged should have special help.

In addition to those who demonstrated academic competence in high school or in a community college a small group of "educationally disadvantaged" students who have the potential of being successful in college should be admitted and given special assistance to enhance their chances of success; entrance requirements should be more flexible.

Counseling services treat intensive clinical needs by referral; most of the resources are devoted to "out-reach" programs which utilize group techniques; attention is given to the social climate of the institution, including conflict resolution and organizational development; career exploration is a major emphasis; development of study skills is essential.

Faculty and staff come to the University adequately prepared for entry level performance; dynamics of social and technological change require continuous learning; individuals have primary responsibility for their own development but the University must make opportunities available for personnel to enhance their competence.

Assumptions of the Sixties

College students are primarily 18-22 years old; they are coming to the campus for pre-service education; students will graduate in four or five years; they will be educated.

Achievement of the educational mission of the University is dependent in part on a network of support services that are bureaucratic in nature, well defined, routine; these support services change slowly; they are not highly visible; they are essential to the functioning of the University but are not intimately related to the educational process; they are evaluated on the criterion of efficiency; non-academic personnel perform these services.

The student must conform to the institution demands of the University; failure to achieve a satisfactory level of performance is a personal failure of the student; the institutional role is to provide an acceptable standard and to deny continuing membership to those who fail to meet it.

The Carnegie unit is the measure of academic progress; educational programs should be packaged in quarter or semester length courses; everyone should start and end the course together; pace is adjusted to the median of the class; distributed schedules are the norm.

Higher education is a privilege which must be rationed; higher educational institutions must have qualifications, procedures, and structures to maintain standards; attendance in residence on a campus is evidence of educational achievement; the institution is degree oriented.

Assumptions of the Seventies

An organizational life cycle can often be identified but the stages are not very predictable; we are reaching maturity; the rigidities of old age are not inevitable; the processes of growth have been our primary source of renewal; with maturity and slowing growth other processes of renewal must be deliberately established; renewal is not automatic.

Learning can occur anywhere; the most significant learning is experiential; the world is a learning laboratory; the college years are a time for social involvement; the University is as real a world as any other.

People of nearly any age may come to the University; people are never fully educated; learning is a lifetime enterprise; students may be in preservice, short term in-service, mid career, personal development or other modes.

Achievement of the educational mission of the University is dependent in increasing ways on a growing network of support services that are dynamic in nature with rapid changes in purpose, methods and technology; these services are performed by staff members who are intimately involved in the learning experiences of the institution; they must be evaluated on the basis of the support they render to the student and the faculty; beyond what happens in the classroom these services and the people who provide them have more influence on the social and academic climate of the University than any other facet of our operations.

Learning is a joint enterprise of the student and the institution; failure may be generated by institutional malfunction as well as poor performance by the student; failure is an enormous waste of human potential; the University has an obligation to help students become competent and confident.

The individual learning rates of students must be recognized; different learning objectives and individual performance dictate flexible schedules; a variety of time blocks beginning and ending any time can be anticipated; the Carnegie unit is still influential but it does not reflect academic achievement; for some purposes distributed schedules are pedogogically sound, for others more intensive designs are desirable.

Higher education is a right; our capital investment in the buildings and grounds is in the wrong place; we must take educational experience where the people are; services should be dispersed throughout the community; the focus is on learning; we must know how to measure learning directly; the institution is oriented to learning.

The model for the future of the University cannot, at present, be defined in detail, but it is possible to project some elements of the new University. Among them the following appear evident:

1. Our University will have a changing clientele with our traditional student body drawn from more diverse backgrounds, including more minorities, a substantial infusion of women entering their first collegiate program in middle life, and people in mid-career with previous collegiate education seeking an update of professional skills or re-education for a new career.
2. Dispersal of educational experience via mass media, self-pacing instruction, and physical relocation of more traditional instructional programs throughout the community; the distinctions between campus and non-campus will gradually disappear.
3. Redesign of instructional programs to personalize instruction with fewer rigid requirements, less information giving, more assessment of student interests and abilities, greater assumption by the student of his responsibility for his own education, and a rising emphasis on experiential learning.
4. Redefinition of our educational mission to emphasize student development as the central goal.
5. Increasing use of mediated instruction.
6. Redefinition of the roles and functions of students, faculty, and staff.
7. Reorganization of the University to improve its ability to respond quickly to change, to reorient and redesign programs, to provide support services for non-traditional clientele, to operate decentralized programs, to mediate instruction, to monitor and facilitate individualized learning experience, and to operate in an environment with high novelty ratios and high ambiguity.

Maintaining perspective in a period of very rapid change is a difficult task. It is essential that the views of observers of the impact of change on higher education be widely discussed within the University.

Recommendation 6
Request the President to commission a series of seminars and colloquia on the changing environment of higher education.

We lack a conceptual model for the future of the University that speaks to learning theory, the institution as a social entity, and faculty-student personal transactions. There are relatively few data about delivery systems, time modules, learning environments, student responsibilities, changing characteristics of the student body, faculty roles, or strategies for organizational renewal. What data we have are not presently displayed in a format that speaks to a comprehensive model for the new University.

Recommendation 7
Request the President to commission a study on the evolving University and its role in contemporary society.

The University now requires a process of continuous organizational renewal; that need will increase in the next year or two.

An Agenda for Continuous Organizational Renewal

The University is not independent of its social, cultural, and economic setting. As its constituencies become more diverse, so will its social and political environment. A consensus among sub-publics which supports the University in its present configuration cannot be taken for granted. Maintaining the equilibrium of the institution may be increasingly difficult, and interpreting the values, goals, and behavior of the University, increasingly necessary. As the environment of the University becomes more complex and the pace of social change quickens, adjustments within the institution are increasingly necessary and the available time to make them is decreasing. This condition can be seen in the following series of figures which illustrate the "Crisis Adjustment Model" that has traditionally been followed in most social institutions including this University.

In these figures:

Figure 2

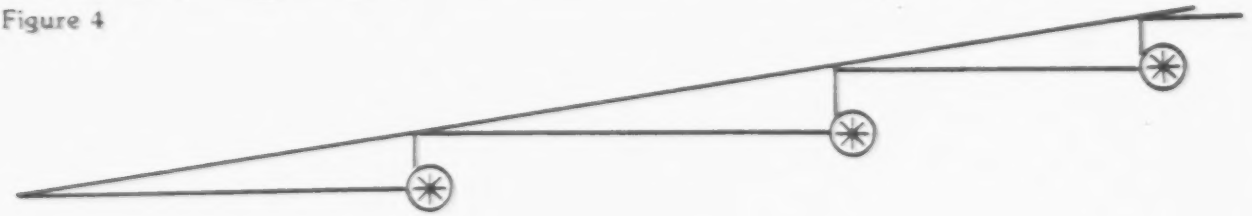
Slope of the line	=	Rate of social change.
✳	=	Crisis brought on by the disparity between the state of society and University services, programs, values.
⊛	=	Larger crisis.
✸	=	End of the University as an effective organization.

When the slope is low, periods between crises are long and the increment of change required to make the agency consonant with society is small. When the social rate of change is rapid, things are more difficult.

Figure 3

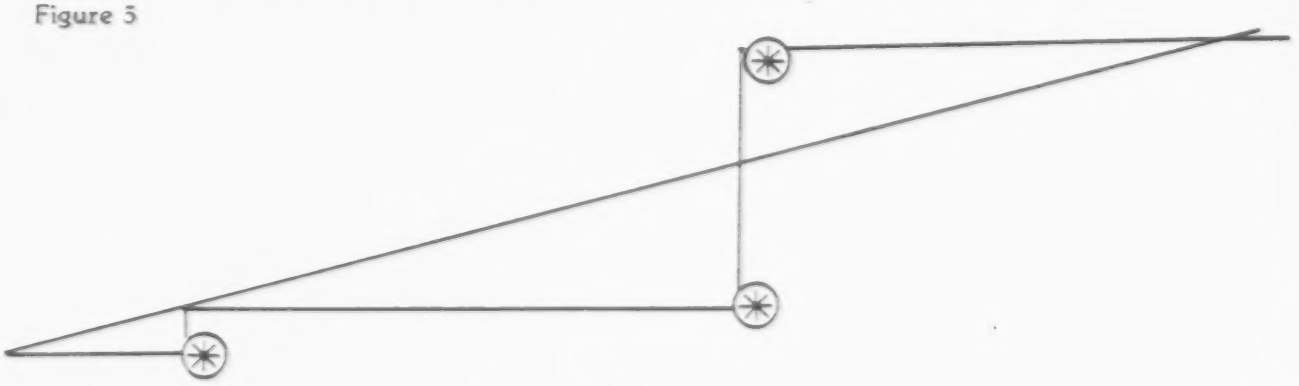
As the rate of social change increases, the time between crises is smaller and the size of the change increment is larger.

Figure 4



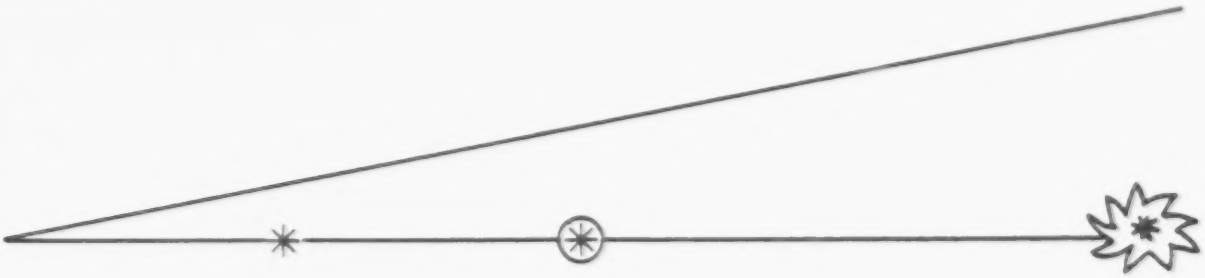
The figures thus far have assumed that crises are recognized and that remedial action is effective, but there are other alternatives. One alternative is that crises are recognized but that corrective action is too large. This kind of response over corrects bringing the agency out of phase by getting too far ahead of the rate of social change and bringing on another crisis. This condition might be diagrammed like this:

Figure 5



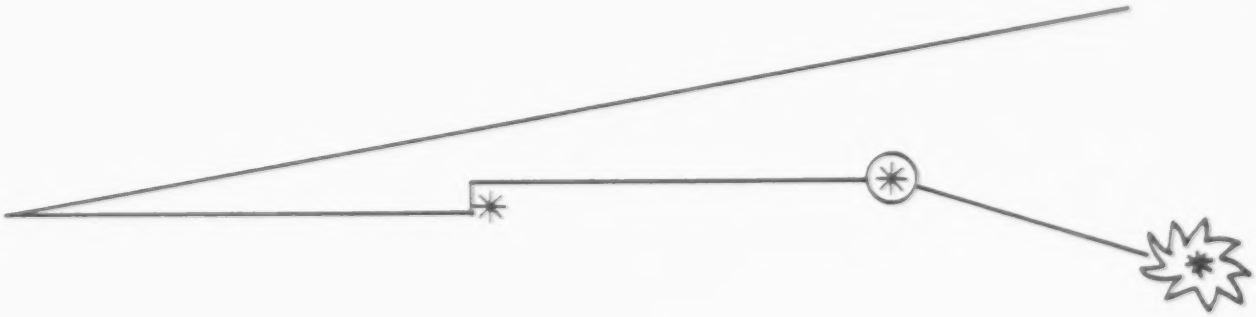
Another possibility is that remedial efforts will be inadequate or ill conceived. In the first instance, the adjustment does not meet the need; in the second, a downward draft even from current conditions is set in motion. In either instance, the demise of the organization is indicated. The only question is, how soon.

Figure 6



Another alternative is that crises are unrecognized, no remedial action is taken, and the disparity between the agency and society becomes so great the agency succumbs either in a major crisis of confidence that cannot be resolved, or (and this is more likely) through the gradual decline in enrollment and withdrawal of support. This probably represents the highest risk in this University. Rates of social change may now be exceeding our adaptive mechanisms.

Figure 7



What we are seeking is a mechanism that will permit the University to adjust continuously to change in the environment so that our services, programs, and values are congruent, or as nearly congruent as we can make them, with the needs and desires of society and our intended clientele. I have called this concept "continuous organizational renewal." I think of it as a process which will build in to operations a means for keeping the University current, making frequent adjustments in small increments and in the absence of crisis. This process can be depicted like this:

Figure 8

It is clear that an institution operating with such a process must be able to assess changes in its social environment and adjust its program, services, values, and priorities very frequently to avoid the large disparities that appear when programs remain static over longer periods of time. This concept requires ability to deploy the resources of the University to meet the needs and wishes of students and potential students, and a method for sensing continuously what those needs and wishes are, so that appropriate program responses can be made and resources can be redeployed as educational programs change. These decisions need to be reached frequently enough to keep changes small. The proposed method of achieving incremental change is the "continuous organizational renewal model."[1]

The Continuous Organizational Renewal Model comprises a sensory element, an analysis element, a decision element, and an action element. The work of the sensory element is to collect data from the environment. The analysis element reduces the raw data to usable form and puts it in a format convenient for decision-makers. The decision element arrives at decisions based on the data, and the action element executes the decision. The model is represented as Figure 9.

In operation, the model becomes a cycle in which the sensory element collects critical data about the needs and wishes of potential and actual clientele or about the operations of the University, the data are analyzed, and transmitted to the decision-making body where decisions are reached, and the decision is put into action. The program which results from the new action becomes input data to the sensory element and the cycle begins again. This is a simple but powerful means of renewing the University. It can be applied to the institution as a whole, any of its sub-units, or any of its processes.

It is recommended the model be employed initially to widen our planning data. The most significant factors in the organizational health of the University are increasingly relatively subtle changes in opinions, aspirations, evaluation of learning experiences, lifestyle, public image of the University, and self-perception of potential clientele. The University receives inadequate information from its environment. We have no effective way to systematically monitor:

1. opinions of the public, the community or potential students in the University;
2. program development of the colleges, universities, and proprietary schools in our service area and the Southern California region and the delivery systems to convey learning experience;
3. development of higher education in the United States; and
4. student opinions, aspirations, and appraisal of the University and its programs.

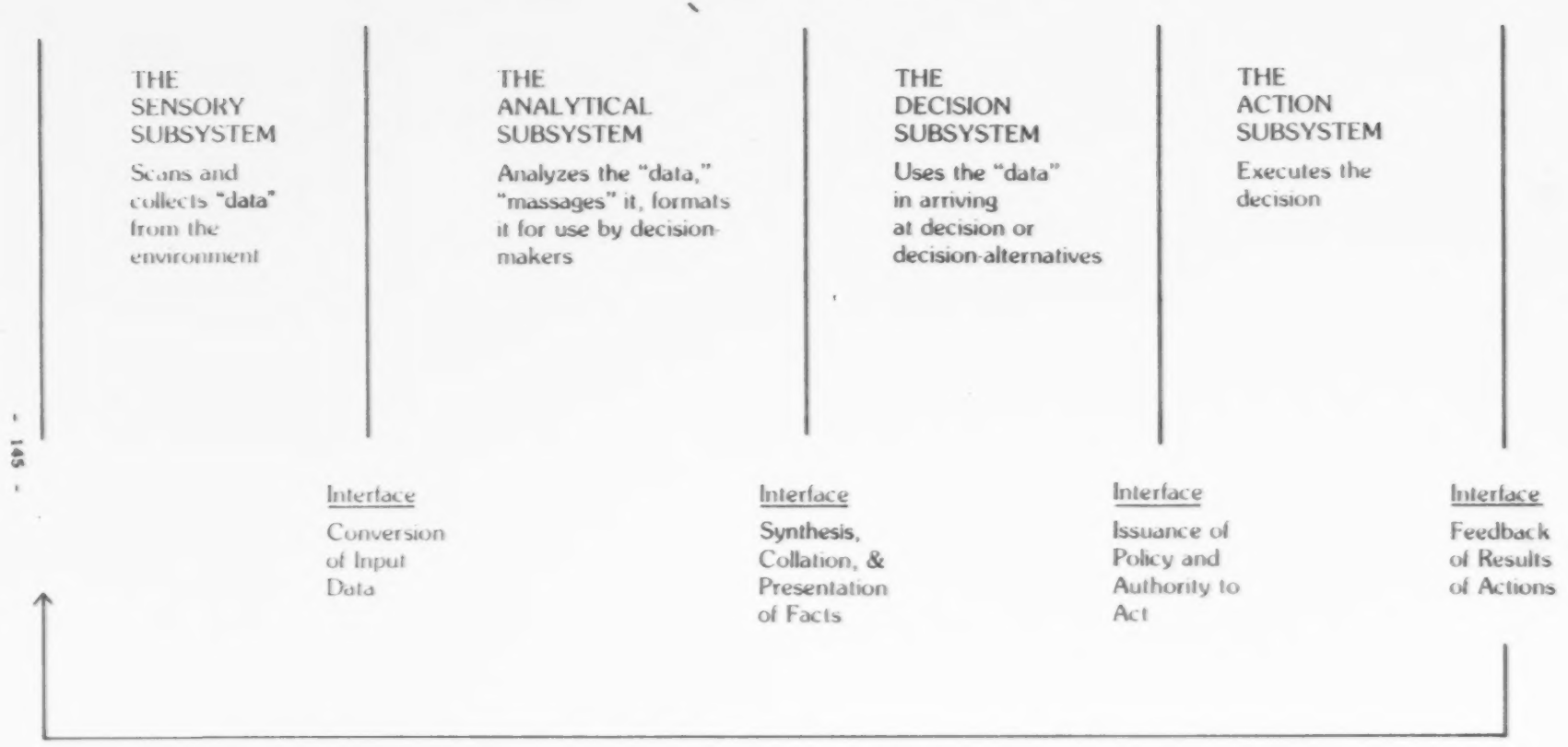
It is recommended the Continuous Organizational Renewal Model be applied to collection of these data and their introduction into the decision-making processes of the University.

Recommendation 8
Request the President to commission a study to identify the elements of data required to monitor our political environment, our social environment, and the student opinion and to recommend methods of establishing a process of continuous organizational renewal.

Epilogue

Technological, philosophical, and social systems are interwoven in an interactive mechanism; change anywhere produces change everywhere. The dynamics of this mechanism impact organizations, and changes in organizations impact individuals, because feelings of worth, values, and images of personal identity are intimately related to the social context provided by institutions. This prompts a final recommendation.

[1] This model was first devised and tested by the Design Committee of the Long Beach Metropolitan YMCA composed of Ralph Bledsoe, David Fenn, Clair Johnson, Pat Vest, Lee Wilson, and David Gray.


THE SUBSYSTEM CYCLE
THE SENSORY SUBSYSTEM
Scans and collects "data" from the environment
THE ANALYTICAL SUBSYSTEM
Analyzes the "data," "massages" it, formats it for use by decision-makers
THE DECISION SUBSYSTEM
Uses the "data" in arriving at decision or decision-alternatives
THE ACTION SUBSYSTEM
Executes the decision
Interface
Conversion of Input Data
Interface
Synthesis, Collation, & Presentation of Facts
Interface
Issuance of Policy and Authority to Act
Interface
Feedback of Results of Actions

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THE CONTINUOUS ORGANIZATIONAL RENEWAL MODEL

Figure 9

Recommendation 9
Establish a task force to examine the processes of change and the problems inherent in institutional change and charge it with recommending strategies for the management of change in our University.

Many people have contributed to these concepts. I wish to acknowledge particularly the contributions of Dr. David Whitcomb, Dr. Marjorie Dole, and the Design Committee.

SUMMARY OF RECOMMENDATIONS

Recommendation No. 1

Request the Academic Senate to appoint several members of the faculty to join several members of the administration in a task force to inventory existing programs of learning based on experience and to identify methods of implementing experiential learning in appropriate programs throughout the University.

Recommendation No. 2

Request the Academic Senate to appoint several members of the faculty to join several members of the administration in a task force to monitor the drive for tuition in public institutions and to recommend a public information campaign in support of tuition-free education in California.

Recommendation No. 3

Request the President to commission a study to investigate what students want from their learning experiences and the factors which influence choices of institutions, major programs, classes, and section.

Recommendation No. 4

Request the President to commission a study of the special needs of the adult student and seek recommendations on the changes necessary in our University to be more responsive to those needs.

Recommendation No. 5

Request the Academic Senate to appoint several members of the faculty to join several members of the administration in a task force on services for adult students and charge it with development of a program of promotional strategies designed to attract the adult.

Recommendation No. 6

Request the President to commission a series of seminars and colloquia on the changing environment of higher education.

Recommendation No. 7

Request the President to commission a study on the evolving University and its role in contemporary society.

Recommendation No. 8

Request the President to commission a study to identify the elements of data required to monitor our political environment, our social environment, and student opinion and to recommend methods of establishing a process of continuous organizational renewal.

Recommendation No. 9

Establish a task force to examine the processes of change and the problems inherent in institutional change and charge it with recommending strategies for the management of change in our University.

APPENDIX M

Selected Attrition Data

CSU Northridge

HIGHLIGHTS

* Attrition of entering Freshmen at CSUN compares with national rates in the following manner:

	CSUN	National
Attrition during first year	32%	30%
Attrition during second year	17%	20%
Attrition during the third and fourth year	21%	10%
Attrition rate over four years	70%	60%

* Attrition is greater for Junior level transfer students than for students who enter as Freshmen.
* Scholastic achievement may not play a major role in causing attrition at CSUN: 64% of a group of non-persisting Freshmen who dropped out had GPA's in excess of 2.0. This suggests that a considerable number of the students lost at CSUN due to attrition are capable of being salvaged. An attrition prevention plan should be investigated.
* When comparing majors, lowest attrition rates for Freshmen appear in Science and Mathematics and the professional schools (Engineering and Computer Science, Business Administration and Economics, Communication and Professional Studies).
* Schools with the highest attrition rates are Arts, Humanities and Social and Behavioral Sciences. To some extent, the Schools that can least afford high attrition rates are the ones that are experiencing the greatest problems with attrition. Schools with declining enrollments generally appear to have the weakest persistence rates for their major while schools with increasing enrollments have the strongest persistence rates.
* Among entering Freshmen, females have a higher attrition rate than do males.
* Students with undeclared major status at entrance have higher attrition rates than do students with declared major status at entrance.
* Math scores on the SAT appear to offer more promise as a predictor of persistence at CSUN than do verbal SAT scores.
* Foreign students in both the System and at CSUN have higher persistence rates than does the student population as a whole.
* Rates of attrition within groups have not changed appreciably for the seven year period studied.
* About one-third of all entering Freshman students do not declare a major. This figure has been growing since the early seventies.
* Students who are "Undecided" have a higher attrition (drop out) rate than do students who enter with a major.
* Only 46-48% of all Freshmen entering as "Undecided" are still enrolled after two years.
* There is a greater percentage of female students in the "Undecided" category than in the "Decided" category.
* Far more students who enter with a major intend to go on to graduate school than do "Undecided" students.
* A requirement for an earlier declaration of major by Undecided students would reduce attrition by approximately 6%.

APPENDIX N

Academic Advisement Questionnaire

San Jose State University

ACADEMIC ADVISEMENT QUESTIONNAIRE

Each SJSU faculty member and student is being asked to complete a questionnaire regarding the academic advisement process for majors. A major purpose or this questionnaire for faculty members is to determine how important you feel it is to serve as an academic advisor and whether the performance of advisors should be used in the Retention/Tenure/Promotion (RTP) process as one criterion to judge overall effectiveness of academic assignment. Even though you may not currently be serving as a major advisor, your responses to this questionnaire are most important. If you are currently an advisor for majors, your responses are vital. Please respond to all questions as thoughtfully, honestly, and completely as possible. It should require no more than 15 minutes of your time. You need not give your name. When you have completed the questionnaire, please return it directly to AVP Burns' office through campus mail. Thank you for your cooperation in this project.

1. Your department _____
2. Academic rank _____
3. Which of the following best describes your status?

   Temporary_____ Probationary_____ Tenured_____
4. If you are currently serving as an advisor or have been an advisor within the past two academic years, please indicate your advisement area(s) (you may check more than one):

   _____ Undergraduate major advisor
   _____ Undergraduate minor advisor
   _____ Graduate advisor
   _____ Graduate unclassified
   _____ Credential advisor
   _____ Not an advisor
5. Three methods of dealing with students' advisement questions are listed below. Please rate each method on a scale from 1 to 3 in which 1 indicates the greatest number of questions and 3 the least number of questions that can be handled by a particular method.

   For questions dealing with university requirements:
   _____ Mass advising groups led by qualified faculty members
   _____ One-to-one advisor-advisee contacts
   _____ Students' reading of university bulletin and departmental publications

   For questions dealing with departmental requirements:
   _____ Mass advising groups led by qualified faculty members
   _____ One-to-one advisor-advisee contacts
   _____ Students' reading of university bulletin and departmental publications
6. Do you believe individual students should be assigned to specific advisors?

   Yes_____ No_____

   If no, please suggest an alternative method _____

   _____
7. Do you believe students can receive better academic advisement if they are allowed to choose their own advisor rather than being assigned to a specific advisor?

   Yes_____ No_____
8. Should students retain the same advisor during their tenure on campus, assuming they do not change majors?

   Yes_____ No_____

9. In which of the following areas should students expect to receive information from their advisors? (Check as many as desired)

_____ University rules and regulations (e.g., residency requirements, grading policy, etc.)
_____ General education requirements
_____ Major requirements
_____ Minor requirements
_____ University graduation requirements
_____ Campus resources (e.g., student health, counseling services, reading clinic, etc.)
_____ Career, graduate, and professional school plans
_____ Planning class schedules
_____ Personal problems
_____ Learning problems

10. How important is it for an advisor to know his/her advisees well enough to recognize them and call them by name?

Not important___ Somewhat important___ Moderately important___ Very important___

11. How important is it for an advisor to have some understanding of the individual advisee's personal and/or learning problems?

Not important___ Somewhat important___ Moderately important___ Very important___

12. Are you familiar with the materials and information available at the General Education Undergraduate Advisement Center located in Library North?

Not familiar___ Somewhat familiar___ Moderately familiar___ Very familiar___

13. Have you used the Advisors' Handbook published by the office of the Dean of Undergraduate studies?

Yes_____ No_____

14. Do you believe that workshops or departmental training sessions on academic advising techniques or resources would be helpful?

Yes_____ No_____

15. Should there be a departmental central advising station during the advance registration (CAR) period?

Yes_____ No_____

16. Should advisors routinely have access to pertinent information about the advisee (e.g., placement test scores and transcripts)?

Yes_____ No_____
If yes, please specify what types of information _____
_____

17. If a faculty member is assigned to be an advisor, should he/she be relieved of some committee responsibilities? (You may check more than one)

Departmental_____ School_____ University_____
Should not be relieved of committee assignments_____

18. If the quality of a faculty member's advisement services were used in the RTP process (e.g., to offset a limited creative or publication record, etc.), should it be:

a. A voluntary, supplemental category? Yes_____ No_____
b. A mandatory, separate category? Yes_____ No_____

19. If advisement were considered in the RTP process, how much weight should it be given?

No weight___ Minimal weight___ Modest weight___ Fairly heavy weight___ Very heavy weight___

20. Are you in favor of students completing an annual evaluation of all academic advisors, by name and department:

a. For use in the RTP process? Yes_____ No_____
b. For the advisor's information only? Yes_____ No_____

21. How would you rate the overall effectiveness of advisement services within your department?
Excellent___ Good___ Average___ Fair___ Poor___ (Advising is nonexistent___)

THE FOLLOWING QUESTIONS SHOULD BE ANSWERED BY CURRENT MAJOR ADVISORS OR FACULTY MEMBERS WHO HAVE SERVED AS MAJOR ADVISORS WITHIN THE PAST TWO ACADEMIC YEARS. PLEASE ADVANCE TO THE COMMENTS AND SUGGESTIONS SECTION AT THE END OF THE QUESTIONNAIRE IF YOU DO NOT FIT INTO EITHER OF THESE TWO CATEGORIES.

22. Have you ever received any special assistance or training to prepare you for your advising responsibilities?
Yes_____ No_____
If yes, please describe _____

23. Do you know approximately how many advisees you are assigned each semester?
Yes_____ No_____
If yes, please specify approximate number_____

24. How many office hours per week do you make available for student contacts, including nonadvisee contacts? _____

25. On the average, how many hours should you be expected to spend with your total group of advisees?
_____ per week
_____ per semester
_____ per academic year

26. Do you feel the need for additional office hours for academic advisement beyond those needed to fulfill necessary contacts with students in your classes?
Yes_____ Occasionally_____ No_____

27. How important is it to supplement your regular office hours at the beginning of the semester and during CAR periods for purposes of advisement?
Not important___ Somewhat important___ Moderately important___ Very important___

28. In reference to the total number of students who contact you for advisement each academic year, please estimate the number of contacts you have with the typical advisee:
_____ 0 - 1 times per academic year
_____ 2 - 3 times per academic year
_____ 4 or more times per academic year

29. On the average, how much time do you spend with an advisee during a typical advisement session? _____

30. Are any types of student records available to you when you meet with student advisees?
Yes_____ No_____
If yes, please specify _____

31. Are there particular offices or departments on campus that make your advisement efforts more difficult (e.g., Graduate Study Office, Records, Admissions, etc.)?
Yes_____ No_____
If yes, please specify _____

32. Please list, in order of importance, the major or recurring problems you encounter in performing the functions of an academic advisor.

COMMENTS AND SUGGESTIONS

Please list here any comments or recommendations you may have regarding the academic advisement process and how it may be improved.

ACADEMIC ADVISEMENT QUESTIONNAIRE
DEPARTMENTAL FORM

This form of the academic advisement questionnaire should be completed by the department chair only. It is not intended that individual faculty respond to these questions. The intent of the questions is to elicit sufficient information about some of the "mechanized" aspects of advising that can serve as data for planning better advisement for our students. Please provide as much detailed information as you can without spending a lot of time seeking precise data from files. Thank you for your cooperation; will you please have this questionnaire completed to be returned when faculty surveys are due.

1. Department_____
2. Approximate number of undergraduate majors_____
3. Approximate number of graduate majors _____
4. Number of faculty serving officially as undergraduate major advisors_____
5. Number of faculty serving officially as undergraduate minor advisors_____
6. Number of faculty officially serving as graduate advisors_____
7. How are advisors selected in your department?

8. What categories of faculty, if any, in your department do not serve as advisors? (Please do not indicate names but rather information like: part-time temporary, those who have large classes, those who refuse, etc.)

9. What criteria are used in appointing advisors?

10. Are advisees assigned to individual faculty advisors and, if so how?

11. Approximately how many advisees are assigned (or however it is done in your department) to each advisor?
    a. Undergraduate Major_____
    b. Undergraduate Minor_____
    c. Graduate _____
12. Are students officially involved in academic advisement? If so, how?

13. What, if any, different advisement delivery systems are employed during CAR periods?

14. How often are departmental statements regarding major and minor requirements revised?

15. As departmental policies change is there a systematic system for getting the information to advisors? If so, how is it done?

16. Does your department have regularly scheduled workshops or training sessions for old and new advisors? If so, what are they and how often do they occur?

17. As department chair do you think effectiveness of academic advisement should be specifically considered in the retention, tenure, and promotion (RTP) process?

18. If academic advisement were considered as a supplemental category in the RTP process, how much weight should it be given?
    No weight_____ Little weight_____ Moderate weight_____ A good deal of weight_____
19. As department chair, what are the major or recurring problems in academic advisement? (Please list in order of importance.)

20. Please make any comments or suggestions concerning the improvement of academic advisement.

The purpose of this questionnaire is to evaluate the effectiveness of SJSU's Advising Programs. Your evaluation will help us to improve our service to students. Your particular advisor will not see individual student ratings, only those of a major department as a whole.

RETURN YOUR ADVANCE REGISTRATION FEE PAYMENT CARD AND THIS QUESTIONNAIRE IN THE ACCOMPANYING ENVELOPE.

Major Title

Major Code (see reverse side) or
Write and mark your Major Code in the area below

Section II

1. Are you enrolled in
   a. ☐ Daytime classes only
   b. ☐ Day and evening classes
   c. ☐ Evening classes only

2. Do you know the name of your advisor?
   ☐ Yes
   ☐ No

3. Do you know how to obtain your advisor's name?
   ☐ Yes
   ☐ No

4. If you have not changed majors at SJSU have you had the same advisor during every semester of attendance?
   ☐ Yes
   ☐ No

5. How easy is it for you to arrange an appointment with your advisor to discuss your academic program?
   ☐ I have not attempted to make an appointment
   ☐ Very easy
   ☐ Somewhat easy
   ☐ Somewhat difficult

6. How many times do you usually see your advisor?
   ☐ None
   ☐ Once a year
   ☐ Less than once a year
   ☐ Two or three times a semester

7. What is the average amount of time you usually spend with your advisor when you see her/him?
   ☐ I have never seen my advisor
   ☐ Less than 5 minutes a visit
   ☐ About 15 minutes
   ☐ About 30 minutes
   ☐ More than 30 minutes

8. Prior to attending SJSU, what type of educational institution did you last attend?
   ☐ High School
   ☐ Community College
   ☐ 4-Year University or College
   ☐ Trade School
   ☐ Other Please Specify

What is your current class level?
- ☐ Freshman
- ☐ Sophomore
- ☐ Junior
- ☐ Senior
- ☐ Second Baccalaureate
- ☐ Master's Degree Program
- ☐ M.A.
- ☐ M.S.
- ☐ Credential
- ☐ Certificate

Section II

Adequate time with your advisor to evaluate her/his effectiveness.

NOT APPLICABLE: I have not had enough contact with my advisor to evaluate her/him in regard to this question.

or

I have not asked my advisor for help in this area.

EXCELLENT: My advisor shows this behavior in almost all situations.

GOOD: My advisor shows this behavior fairly often, but not always.

FAIR: My advisor shows this behavior in only a few situations.

POOR: My advisor almost never shows this behavior.

Additional comments are welcomed. Use the "Comments" section on the reverse side of this form.

1. My advisor keeps his/her posted office hours.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐ NOT APPLICABLE
2. My advisor's office hours provide adequate opportunity for me to meet with him/her.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐ EXCELLENT
3. My advisor usually allows adequate time to discuss my academic program when I meet with him/her.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐ GOOD
4. My advisor does a good job of explaining major requirements such as prerequisites and course requirements.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐ FAIR
5. My advisor satisfactorily explains university requirements, including general education requirements.	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐ POOR
6. My advisor seems to be interested in me as a person.										
7. My advisor knows where to send me when I request information regarding other campus resources.										
8. If I needed this information, my advisor seems like a helpful person to go to for answers or problem solving.										
9. My advisor has a professional attitude toward his job and his students.										
10. My advisor is available when I need to see him/her.										
11. My advisor is willing to spend time with me.										
12. My advisor is concerned about my success as a student.										

SAN JOSE STATE UNIVERSITY

APPENDIX O

Week of Welcome Orientation Program

San Luis Obispo

PRESS RELEASE

SAN LUIS OBISPO -- Twenty seven hundred new students and many of their parents are expected to take part in a unique orientation program from Sunday, Sept. 18, through Thursday, Sept. 22, at Cal Poly.

Known as "Week of Welcome" or "WOW" the program will consist of tours of the Cal Poly campus, student visits with faculty and staff in their homes, dinners and brunches, and educationally related activities designed to help make the transition into college life more attractive and less traumatic.

John Holbrook, a senior mechanical engineering major from Ontario, is the chairman of WOW for 1977 and is largely responsible for the smooth-running operation of the week-long series of programs.

Among the activities planned on Sunday, Sept. 18, for parents and friends of new students are a program on Cal Poly, a campus tour, a reception with deans and administrators in Crandall gym, a reception at the home of Cal Poly President Robert E. Kennedy and his wife, and a campus rally and a coffee house under the stars.

Monday, Sept. 19, will see the new students and their 200 counselors in downtown San Luis Obispo for SLO Day, an activity designed to acquaint new students with the area, the layout of the town, and shopping opportunities.

Later in the week, the new students will meet with their academic counselors for advice on classes and how to make the best use of their academic experience while at Cal Poly.

They will also be invited to visit with key faculty, department heads, and administrative staff in their homes for a very warm welcome and reception to the Cal Poly family.

Planning for Week of Welcome is a joint effort of the Cal Poly's Activities Planning Center and the WOW Committee of the university's Associated Students, Inc.

APPENDIX P

Supplemental Retention Recommendations (Cope and Hannah, 1976)

RECOMMENDATIONS

ADMISSIONS AND EXIT PROCEDURES

- Colleges must make it easier to enter and exit, at least facilitating if not encouraging, stopping out, While the American system is already more flexible than others, consider the implications of this view from the collegue in Britain:[2]

On the question of dropping out, one of the things that I am concerned about in Britain is that it is so difficult to drop out! For a variety of reasons—for example, the stigma of dropping out, the difficulty of transferring grants, the difficulty of finding alternative university places—students tend to carry on with their courses even though they may find out fairly quickly that they have made a mistake. By and large most of the people who leave British Universities without completing their degrees have failed, or failed to take some examination or other. hence, if you leave university before time, people—including employers—tend to assume you are an academic failure. The position has been exacerbated by the introduction of numerous resit examinations so that a smaller porportion of students are now being asked to leave the university as a result of poor exam performance and, hence, those that are, are regarded as bigger failures. Thus it takes a very brave student to withdraw voluntarily because he does not like the course; and this sometimes results in the rather wasteful situation of someone struggling on for four years with a course in, say, chemical engineering and finding with some relief at the end of it that he is acceptable as an income tax inspector!

- Colleges have moved farther away from the concept of the two-year or four-year degree; they should encourage intermittent or interruptible schooling and lessen requirements for continuous registration, thus making it easier for students to take a leave of absence. Even in colleges where leaves of absence are permitted, we find few students realize it is easy to obtain an official leave of absence, thus making it easier to return.
- Self-election is a key factor of success in college. The values of an individual related to the particular institutional values are one of the primary determinants of persistence. This relationship points out the need for institutions to clarify these values in the minds of entering students and to examine the admissions procedures for possible adjustmen.

- The model of selective admissions based on test scores and grades is inappropriate. Colleges should place more admissions emphasis on "whole-person" indicators of accomplishment (creative writing, a hobby in science, a goal in life, etc.). These students are much more likely to become outstanding individuals than those with high scores on SATs and ACTs, which offer virtually no indication of capacity for significant intellectual or aesthetic contribution in later years (Wallach, 1972).

ALTERNATIVES ROAD TO AN EDUCATION

- The large pool of noncompleters is likely to be attracted to external degree, Extended University, Open University, University Without Walls, and other concepts, and this development should be encouraged.
- Colleges should arrange for drop-ins to avail themselves of campus resources without the usual hassle of getting admitted to the college and accepted by a department. Residence halls can be used to accomodate transient students, especially in urban areas, where a student may only be on a campus for a brief period to take a workshop or some other brief learning experience.
- In keeping with the concept of encouraging educational opportunity for all ages and people in all circumstances, in addition to various open university concepts, it may be possible for more colleges to experiment with some academic calendar options (e.g., 4-1-4) or Friday-Saturday Colleges.[3]

[2]Personal correspondence from Alan Smithers, Senior Lecturer in Education, University of Bradford, November 1974.

[3]Mount St. Mary College, Newburgh, N.Y., has recently established a Friday-Saturday program in which it is possible to be awarded a baccalaureate degree in four years. "It seems to meet the dropout's expectations and needs ideally, but it is a bit too early to evaluate" (personal correspondence).

CREDIT

- Colleges should increase the awarding credit for knowledge and experience formerly unaccreditable, and thus move toward competence or achievement-oriented degrees.
- Colleges should eliminate arbitrary designations such as sophomore, junior, and senior; instead, students should accumulate credits as indicators of progress towards degrees.
- Potential stopouts might be encouraged to remain with the college if credit could be awarded for approved independent study and experience off-campus, particularly when the project is student suggested and self-directed and the student is seeking "real world" experience.

LIFELONG LEARNING

- Since students who have withdrawn have already shown a willingness for higher education, they form an immense pool of potential students; we know that those who already have the most learning are most likely to engage in further learning.
- External credit and noncredit options should be made available to leavers as well as a wider audience.
- Colleges should allow credit for life's experience, especially for those who started, but had not finished college.
- Colleges should recognize credits earned many years ago; the arbitrary "no credit for credits earned over ten years ago" provision at most colleges is simply that — arbitrary.

In essence, we are saying that in a world of rapidly changing technology, and with its emphasis on continuing education and periodic retraining, there is less and less reason to maintain boundaries between college, and college, school and society, school and work, student and nonstudent. Lessening the emphasis on the prescribed full-time and four-year status provisions in college and university practice will be a positive step toward new patterns of lifetime education in which individuals can choose for themselves from among multioption educational lifestyles.

THE PART-TIME STUDENT

- To encourage part-time study, colleges should alter the tuition structure which penalizes the part-time student in about half the colleges and universities.
- Colleges should provide more financial aid to the part-time attender.
- Basic opportunity grants from the federal government should not require full-time or full-year study.
- Social security benefits should be available to the part-time student just as there should be tax deductions for study part time.

RESEARCH

The aspect of follow-up study which has the greatest potential value involves testing the development of leavers and their peers who stay on to graduation. With the data thus generated, leavers who transfer, stopout, or who go to work, and students who stay on to graduate can be compared with each other. Through such comparison, the relative contributions to student development of the college first attended, of the colleges to which students transfer, and of working experiences can be assessed. Such information will enable more sound judgment about the impact of college in general and about the impact of particular kinds of colleges, matters of major importance to the participating colleges, to other like them, and to higher education in general. More important for the problem of attrition, such information will enable better jusgments concerning the developmental consequences that follow from leaving the college of initial entry. This is the ultimate basis on which distinctions between productive and nonproductive withdrawal can be made, the ultimate basis on which action concerning student atrition must rest.

TRANSFERRING STUDENT

- Colleges must recognize that transferring students have about the same problems of finance and adjustment as typical freshman, and the disparity between aid available to freshmen and transfers should be changed. In particular, we call attention to the financial aid that might be made available to transfer students from community colleges; many able community college studens may not be continuing their education simply because financial help gets targeted at freshmen.
- Community colleges too may assist in the transfer process by recognizing a "retreading" role. The number of transfers from community colleges to four-year colleges is recognized. Not noticed is the *larger* number of transferees that often flow from the university and four-year colleges *to* community colleges, especially in urban areas. Community colleges help many university students "recover" and return to a baccalaureate degree program.
- Small colleges need to take another look at their policies for granting credit for courses taken at other institutions, "...transfers take a credit beating at small institutions; they are twice as likely to lose a semester there as are students with comparable grades transfering to large institutions" (Willingham and Findikvan, 1969).
- The passport, a new type of student file under development by Educational Testing Service and scheduled for application in 1975, deserves support. A 4-by-6-inch microfiche containing nearly 100 pages of student-constructed information, including high school and college grades and recommendations is intended to replace the traditional application form. Progress by transportable passport may become important.

APPENDIX Q

ERSS, ERSG, and ERSC Data Files: Format and Acquisition

(Institutional Research)

FORMAT DESCRIPTIONS OF DATA FILES

Student Enrollment File (ERSS)

Field Number	Columns	Field Name
1	1 - 2	Year
2	3	Term Code
3	4 - 5	Campus Code
4	6 - 14	Social Security Number
5	15 - 18	Birth Date
6	19	Sex Code
7	20	Ethnic Code
8	21	Citizenship Code
9	22	Marital Status
10	23 - 24	High School Graduation Year
11	25 - 28	Residence Area Code
12	29	Residence Status
13	30 - 35	Institution Origin Code
14	36 - 38	First Attendance Period
15	39	Admissions Basis Code
16	40	Enrollment Status
17	41	Student Level Code
18	42	Degree Objective Code
19	43 - 47	Major Code
20	48	Credential Status
21	49 - 51	Credential Code
22	52	Degree Held Code
23	53	Student Standing Code
24	54 - 57	Transfer Units Earned
25	58 - 60	Transfer Grade Point Average
26	61 - 63	Campus Grade Point Average
27	64 - 67	Total Units Earned
28	68 - 70	Total Grade Point Average
29	71 - 73	Term Units Attempted, Lower Division
30	74 - 76	Term Units Attempted, Upper Division
31	77 - 79	Term Units Attempted, Graduate
32	80	Record Type — Code S in each record

Degrees Conferred File (ERSG)

Field Number	Columns	Field Name
1	1 - 2	Year
2	3	Term Code
3	4 - 5	Campus Code
4	6 - 14	Social Security Number
5	15 - 18	Birth Date
6	19	Sex Code
7	20	Ethnic Code
8	21	Citizenship Code
9	22	Marital Status
10	23 - 24	High School Graduation Year
11	25 - 28	Residence Area Code
12	29	Residence Status
13	30 - 35	Institution Origin Code
14	36 - 38	Matriculation Period
15	39	Admissions Basis Code
16	40	Blank Column
17	41	Control Field
18	42	Degree Level Code
19	43 - 47	Degree Code
20	48	Credential Status
21	49 - 51	Credential Code
22	52 - 53	Blank Columns
23	54 - 57	Transfer Units Earned
24	58 - 60	Transfer Grade Point Average
25	61 - 63	Campus Grade Point Average
26	64 - 67	Total Units Earned
27	68 - 70	Total Grade Point Average
28	71 - 79	Blank Columns
29	80	Record Type — Code G in each record

THE CALIFORNIA STATE UNIVERSITY AND COLLEGES
Office of the Chancellor
400 Golden Shore
Long Beach, California 90802
(213) 590-5611

Date: July 17, 1979 Code: IR 79-16

To: Directors of Institutional Research
Directors of Computer Centers/ADP Managers

From: R. G. Whitesel, State University Dean
Institutional Research
Lawrence H. Baker, Director
Information Systems

Subject: Student Continuance (ERSC)

Some individuals have expressed an interest in acquiring campus access to the software developed for the Student Continuance File (ERSC). This file was utilized in our study, "Those Who Stay — Phase II". A review of campus computer capabilities and systemwide workload considerations suggest central processing at the State University Data Center.

It is our intention to make these programs available to the campuses for use at the State University Data Center through the remote job entry facilities available at the campuses. Due to security requirements, direct access to systemwide ERSS and ERSG files is not authorized. Upon campus request, data for that campus may be extracted by Chancellor's Office Staff (IR) from systemwide ERSS and ERSG files and made available for campus use. Alternatively, the programs may be run with campus data provided it is on tape and in the correct format.

A campus may acquire the necessary programming by following these steps.

1. First, express campus interest by requesting, in written form, design documentation from the Division of Information Systems.
2. After a review of this documentation, and verification that it meets campus requirements, request documentation of operations procedure with actual run decks from Information Systems.
3. If desired, campus operations personnel may arrange a short orientation course with Institutional Research personnel to iron out any procedural difficulties that might occur.

LHB:RGW:JT:cb

Distribution: Presidents
Vice Presidents, Administration
Vice Presidents, Academic
Chairmen, EDP Advisory Committee
Management Advisory Committee
Chancellor's Office Distribution
Administration Information Center

APPENDIX R

Marketing Higher Education

(Miscellaneous)

Why We Need Marketing

The American Marketing Association surveyed 40 professorial subscribers to its Journal of Marketing. *The survey asked educators to list outstanding leaders in marketing thought. Philip Kotler's name appeared in the resulting list more often than any other. He is the Harold T. Martin Professor of Marketing in Northwestern University's Graduate School of Management.*

Kotler's research and writing center on market anaylsis; new product development; and marketing strategy, planning, and control. One of his three books is the most widely used marketing text in graduate business schools. Author of several award-winning articles, Kotler serves as advisory editor of the Holt, Rinehart, and Winston Marketing Series and as a trustee of the Marketing Science Institute in Cambridge, Massachusetts. His most recent book, Marketing for Nonprofit Organizations, *provides one of the few published sources of help for non-commercial marketing efforts.*

To lead off this special issue on marketing in higher education, CURRENTS *assistant editor, Nancy Harper, interviewed Kotler in Evanston, Illinois.*

CURRENTS: ***Suppose that I am the president of a liberal arts college in the rural Midwest. We enroll 2,000 students. For the third year in a row, enrollment is up slightly, and I feel complacent. Would I need marketing?***

Kotler: Low enrollment is not the only reason for needing marketing. A college with adequate enrollment ought to be concerned with the reasons why it is getting students, its whyset of benefits, it's an affiliation; reasons for its success will continue. For example, the college may have done nothing to help its situation. Maybe the mood of high-school students has shifted toward smaller colleges, and this hypothetical college is riding well as a result.

I am concerned that the situation could reverse itself. Quite suddenly, the president could find out that not enough work had been done to develop a long-term market for the college. He or she should try to learn now what the college's position is in the marketplace and where its present students are coming from. Otherwise, the future could throw a curve at the college.

CURRENTS: ***A curve such as the fact that fewer high-school students today means fewer college students five years from now?***

Kotler: That's right. The president ought to find out if the school is satisfying the customer. Many college students may have left with indifferent or negative feelings toward the college. They may be "talking down" the college to their friends and acquaintances. Unfavorable comments will materialize as a threat years later. Even though the college seems like a successful operation, the president should use market research to see that the students are satisfied.

CURRENTS: ***Before we get too far, we ought to define marketing.***

Kotler: May I give you this definition? Marketing is the analysis planning, and control of programs designed to bring about desired exchanges with designated markets.

Let me explain that. Every organization is surrounded by publics. When we talk about a college, we're thinking of many such publics, one of which is prospective students. The college wants to attract some of these students, but it cannot force the attraction and it doesn't want to beg for students.

How do you get a resource that you want very much from someone else? You can steal it, you can force it, or you can beg for it. Or, you can offer something attractive to the other party – an offer package. It's a set of benefits; it's an affiliation; it's something that's so motivating that, though that person has many other choices, he or she freely decides to transact with you.

So, exchange is a very democratic idea. Since the two parties voluntarily entered the relationship, they will be satisfied if their expectations are met. Marketing concerns the *management* of that exchange from the seller's point of view.

CURRENTS: ***What are the basic steps in marketing?***

Kotler: Very basically, a marketing effort involves planning to set marketing goals, identifying the publics or groups to whom we will appeal, doing research to learn their needs and preferences, developing a product, distribution planning, pricing, and promotion.

CURRENTS: ***Are these aspects of marketing what you call a "marketing mix?"***

Kotler: The marketing mix is a set of consumer-satisfying tools – everything that you would organize to serve and satisfy customers.

Let's think for a moment about the steps and what they mean. It's marketing research when we try to find out methodically what high school students are seeking and what they think and know about different colleges. Product/service development in college marketing means designing attractive curricula that help build enrollments.

Distribution planning is thinking through where classes shall be located and at what time they should be offered. Do we have evening classes and day classes? Do we reach out by offering classes in a nearby city, over educational television, or even on a commuter train?

Pricing – tuition and financial aid – is an integral part of college administration. And promotion enters into the picture with college catalogs, advertisements in magazines and on radio stations, and public relations programs.

We need to ask ourselves how well we are doing each of these jobs.

"Low enrollment is not the only reason for needing marketing. A college with adequate enrollment ought to be concerned with the reasons why it is getting students, why it is successful, and whether the reasons for its success will continue."

Philip Kotler, an outstanding leader in marketing

And could we do them better?

CURRENTS: *Do you think that colleges and universities use marketing now without realizing it?*

Kotler: Yes, we all do marketing. It's not a question of deciding to do it or not to do it, but rather, it's a questions of deciding how to do it and how to be effective.

CURRENTS: *Could you tell us the types of marketing, so that we might understand and refine our methods?*

Kotler: We talk about three different marketing approaches. One is called a product-oriented approach to marketing. With this, you might say, "We will design a good college. We know what makes a college good. People will recognize its inherent merit. We will not have to promote it. After all, a good product sells itself."

CURRENTS: *Is this a valid approach?*

Kotler: The product-oriented thinking will work for some of our most outstanding institutions. If you have a Cadillac, it's going to draw a lot of buyers because of its well-known quality. But even Cadillacs may lose their market if they are not sensitive to changing customer needs.

CURRENTS: *Then what are the other approaches to marketing?*

Kotler: Another kind of marketing is what we call the hard-sell approach. The organization becomes highly sales-oriented. Even teachers and staff members are enlisted to go out and sell the college – to be boosters and enthusiasts. Success is not left to chance. It's a real drive of the kind we might see in some evangelical movements. We have seen troubled colleges try to energize their supporters in this manner.

There's a third kind of marketing that focuses on building satisfaction in a long-term clientele. It's professional marketing. It entails quite consciously doing a good job of consumer and market research, market definition and cultivation, product and service design and de-

Four major benefits of marketing are "a better balancing of conflicting interests, a better monitoring of important changes in the environment, a more relevant product, and greater communication effectiveness."

velopment, distribution, planning, pricing, and promotion.

CURRENTS: ***Why should*** CASE ***members be interested in professional marketing?***

Kotler: Because it takes work and thought to develop the active interest and support of various publics connected with the college. The development officer must understand why people give money to any specific institution and how to appeal to people. Raising money is a marketing problem.

The alumni director is trying to strengthen good feelings toward the college among its alumni. Many alumni don't get involved with the college, financially or with time. So there's a problem that calls for a marketing plan.

Inaccurate publications can hurt the marketing effort, and so can ineffective contacts with the legislature. So, without a harmonized effort by the institution, the school may fail to attain its goals.

CURRENTS: ***We are all committed to advancing our institutions. Perhaps, however, that commitment is not backed by a plan. What benefits do you see from a concerted, organized marketing effort?***

Kotler: Four major benefits are likely to accrue. They are: a better balancing of conflicting interests, a better monitoring of important changes in the environment, a more relevant product, and greater communication effectiveness.

CURRENTS: ***What dangers can institutions avoid by using marketing?***

Kotler: They can avoid being *unresponsive*. Some organizations do nothing to measure the needs, perceptions, preferences, or satisfaction of their constiuent publics. Furthermore, they make it difficult for publics to feed back complaints, suggestions, and opinions.

Until recently, many universities drew more students than they could handle, and therefore were less responsive to student attitudes. We see proof of this in the inability of many colleges to deal with the student upheavals in the late '60s and early '70s.

Customers of unresponsive organizations become frustrated and dissatisfied. Dissatisfaction leads to rebellion or apathy. Ultimately, the organization seals its own doom.

CURRENTS: ***The benefits of a concerted marketing effort are obvious, but carrying it out is not easy. In your book,*** Marketing for Nonprofit Organizations, ***you quote Edward S. McKay, a marketing consultant:***

> ***It may require drastic and upsetting changes in organization. It usually demands new approaches to planning. It may set in motion a series of appraisals that will disclose surprising weaknesses in performance; distressing needs for modification of operating practices; and unexpected gaps, conflicts, or obsolescence in basic policies. Without doubt, it will call for re-orientation of business philosophy and for the reversal of some long-established attitudes. These changes will not be easy to implement. Objectives, obstacles, resistance, and deep-rooted habits will have to be overcome. Frequently, even difficult and painful restaffing programs are necessary before any real progress can be made in implementing the concept.***

McKay paints a black picture of the management hassles involved in marketing. How do you respond?

Kotler: Certainly, marketing can disturb existing understandings and power relationships within a college. I would suggest that a college president be careful about the way in which he or she brings in marketing resources, not because others have something to fear. Marketing would be counterproductive if it divided and antagonized people. fear. Marketing would be counterproductive if it divided and antagonized people.

CURRENTS: ***Have you any suggestions to help administrators "sell" the idea of marketing within their institution?***

Kotler: There are four or five different ways to draw marketing thinking into an organization.

The first way is to hire a marketing consultant, advertising agency, or marketing research firm to look at a specific problem on a short-term basis. This method means you can learn a little bit about marketing without building it into the university as a fixed cost. It's a way to buy expertise.

A second way to do it is to form a marketing committee using the staff you already have. It could include the director of development, the director of public relations, the director of alumni, and some of the deans. In addition, you might add a trustee who has experience in business. Make this committee responsible for developing the long-range marketing plan.

A third way is to add a permanent marketing specialist to the staff – someone who's very good at marketing research or communications, depending upon your needs. If your problem is a lack of understanding of student trends and attitudes, you add an expert on marketing research. Or, if your problem is communication, you hire an expert in advertising and/or PR.

The fourth way is more radical and takes more courage: Hire a marketing director. That person would be responsible for overseeing and coordinating a number of services, including market research, marketing planning, communication, and pricing. I know that this is not an attractive solution to small colleges because it means creating another job position.

"I visualize a college as a floating armada of intellectual resources that must be kept current and be described in terms that are meaningful and motivating to students. And I don't mean fancy packaging without substance."

There is a fifth approach – designating a vice president of marketing. Very often, a college's vice president of development functions this way without using the term "marketing" in the title.

CURRENTS: ***The term is a problem. To many, marketing means hard selling and manipulation.***
Kotler: This image of marketing comes from its most visible expression – the selling of consumer packaged goods. Every time we watch television or read magazines, we see the commercials and think that marketing is always hard sell. Actually, marketing started out as a contrast to the idea of pure selling.

In the old days, someone would manufacture a product and then ask a sales force to sell it. No matter how good or bad the product was, the sales force was rated on how many customers it found.

Then the idea arose that we should make a product that doesn't require hard selling because it sells itself. If we figure out what people really want, then there'll be a natural market for the product and selling would be easy. In fact, the sales staff would be taking orders rather than selling.

So, marketing and sales are opposites in some ways. A good job of marketing can make hard selling redundant. Marketing calls upon the provider to do a good job of studying the buyer's needs, perceptions, motivations, and preferences.

CURRENTS: ***You say that marketing should not be equated with selling and manipulation but with research and response – with identifying and responding to needs.***
Kotler: Right. After all, it's difficult to change or manipulate people – to convince them to want something that they don't want at the moment or to give up something they now want for what you offer. And not only is it difficult, it's expensive and, I think, unethical.

On the other hand, a response philosophy is easy and natural. Instead of setting out to change people's desires, you respond to the desires they already have. That's what modern marketing is about.

If the term – marketing – is a handicap in college circles, we don't have to use it. The point can be made in other ways.

CURRENTS: ***Should a college simply give students what they want? This seems to be what marketing is saying. Do students know what they want? And more importantly, do they know what they need?***
Kotler: No, perhaps they don't know exactly what they want. But, on the other hand, I don't accept the opposite argument that students' tastes, preferences, opinions, and desires ought to be disregarded in setting up a college program and particular curricula and courses. Too often, colleges try to tell students that they need liberal arts, or a foreign language, or a course in philosophy without explaining this in a language students can understand. Students today don't like to be told what to take – they like to know why they should take the course, what its benefits are, what they are giving up in its stead. The argument that they will understand 10 years later that the school knew best is a cop-out. Surely, there should be some responsibility to explain to the consumer the value of these courses. And in the case of certain traditional courses, the value really isn't there any longer, at least not for all students. Those teaching the "dead" courses want to require them – it ensures their jobs. In my mind, it is their responsibility to sell them to students to teach them vigorously and effectively, and not to hide behind "required courses."

I visualize a college as a floating armada of intellectial resources that must be kept current and be described in terms that are meaningful and motivating to students. And I don't mean fancy packaging without substance. I mean solid courses, well described, that deliver important values that are recognized by the consumers.

CURRENTS: ***How does a college get started in planning its marketing? What is the first step?***
Kotler: The first step takes place in the top echelon of college management – the president's office and the board of trustees. Marketing does not start in the admissions office. The admissions effort – as important as it is – is largely a sales effort. Its effectiveness depends on how well the top management has defined the college's mission to begin with. What does it want to be as an institution? What groups does it want to serve? What weight does it want to put on sheer intellectual development versus social and emotional development? The answers to these questions will determine the college's positioning among similar institutions.

CURRENTS: ***These are questions of great importance. What input does the college administration need to reflect on these questions?***
Kotler: The college should start by trying to find out how it is currently perceived in the marketplace.

First, it asks, how much awareness is there of the college's existence among various groups? If this is a local, rural college, then it's not necessary to find out if people living 2,000 miles away are aware of its existence. It is desirable to know how many high-school students in your target market – those you define as the ones you want to attract – are aware of the institution. Awareness can mean as little as knowing the name.

CURRENTS: ***What if you find out that your main target market has low awareness of the college?***
Kotler: Then you must take steps to build greater awareness. Adver-

"We may not like how we are perceived in the market. Either the image is wrong, in which case we need to be a better job of communicating; or the image is not flattering, in which case we will have to improve our product."

tising is the most cost-effective way to do this.

The next step is to find out about comprehension. Now we're talking about how much the market knows about the college. There may be high awareness but low comprehension. High-school students may know the name but not know that the college has an effective job placement service or that it has a unique science program or that it has small classes.

The next step is to measure attitudes toward the school. Besides share-of-mind, a college wants share-of-heart. One helpful tool is the semantic differential, which asks high-school students to rate the institution on polar adjective scales such as progressive/old-fashioned, friendly/unfriendly, high prestige/low prestige, and so on.

All of this gives initial data on the college's position in the market. It helps locate problems and opportunities. It helps set marketing objectives such as building awareness or comprehension of favorable attitudes.

CURRENTS: ***We've used prospective students as an example of one public. What other groups should we concern ourselves with?***

Kotler: A college is not dealing with the whole public as an undifferentiated mass, but with specific groups: donors, students, faculty, alumni, mass media, government agencies, employers, and many others. The marketer asks about each of these groups: What do they need and want and what can we offer in exchange to build a long lasting and satisfying relationship? Each public may require a marketing plan.

CURRENTS: ***At this point, we know our institutional goals, we've defined the market, and we have researched how the college is perceived. What's next?***

Kotler: Well, we may not like how we are perceived in the market. Either the image is wrong; in which case we need to do a better job of communicating; or the image is not flattering in which case we will have to improve our product.

We ought to imagine alternative futures for our school. We can't be a Model T Ford in a world of rocket ships. We must be ready to consider new possibilities and test them internally as well as externally. A liberal arts college may want to add a business school because it can't attract enough liberal arts students. The question is: Will the faculty accept this? Sometimes internal marketing is a greater challenge than external marketing.

CURRENTS: ***It isn't necessary to offer a brand new program, is it? Could we just as well work with something that is already part of the institution?***

Kotler: Oh yes, we might want to refresh and relaunch an existing "product" that might not be working well. For example, the political science program may not be drawing. The reasons can be identified and steps can be taken to revitalize this program.

CURRENTS: ***What about the college's catalog?***

Kotler: Many college catalogs have a sameness. They show, if they can, the lovely buildings and trees. But the student wants to know what kind of person he or she might become after attending the college, and what sort of life he or she might have there.

CURRENTS: ***Let's go back to a hypothetical situation. Imagine two similar colleges in the same area. They have roughly the same programs and both are doing well. Then, one of the two begins an exciting new program – like opening a new student center or starting courses in business management – and it begins to outdraw the other. What should the competitor do?***

Kotler: It has three choices, really. one is to do nothing out of inertia or out of a feeling that students will not abandon it.

The second is to imitate the other college by opening its own new student center or business management program. This offsets the other college's advantage. I consider the seond alternative uncreative.

The third alternative is to find new programs or services that will add distinctiveness to the school. This is called *positioning* – finding a viable niche in the market.

Colleges that do not position themselves distinctly in the market are going to attract students who have not thought through what they want from college. It is a hit-and-miss student body.

CURRENTS: ***Most institutions simply cannot afford to begin a new program or service. In many cases, adminstrators must first drop bleeder programs to generate the needed cash. How would you determine which programs to kill, to build, or to refresh?***

Kotler: That's a very important question. Organizations are learning that they cannot offer everything. Instead of allowing every department to grow, each department can be tagged for one of four missions.

Some departments will be tagged for *growth* and will receive an increasing share of the resources.

Other departments will be *maintained* in size. They will receive a steady level of support because they face a stable demand. For example, English, physics, and math courses are in this category.

Other departments will be put in a *phase-down* pattern. These are departments (or courses) with shrinking markets.

A fourth group should be *phased out*. These are departments or courses with very few students and highly uncertain futures.

CURRENTS: ***So, in the future, we should allocate money according to the category?***

"Higher education is on the defensive right now. It must convince young people and their parents that is is a 'good,' that they should want it, that they will benefit by it, and that they should support it."

Kotler: That's right. I believe that schools in the future will use this type of strategic resource allocation.

Continuing all programs at the same level is the easy way out because it doesn't arouse internal political struggles. It takes a courageous administrator to get agreement from trustees and deans that certain areas will be built, others maintained, others phased down, and others phased out.

CURRENTS: ***Marketing involves price. What if a state college needs more money and wants to raise the tuition?***

Kotler: What you do in that case is to direct your marketing effort at the legislature. You discover as much as you can about the lawmakers. What are their perceptions and attitudes about your institution? What are their desires for higher education in the state? What do they want the college to accomplish? You can also try to present the tuition hike as an opportunity. It calls for a marketing plan.

CURRENTS: ***Once you've convinced the legislature to raise tuition, you have a problem with students. In fact, some are filing lawsuits against institutions that presented a figure but then raised the ante. How would you deal with student dissatisfaction in the event of a tuition hike?***

Kotler: You would try to help students understand that a tuition hike was not a callous act of a despotic administration. The reasons must be communicated effectively. You might invite a student committee to look at the university's finances to see what shape they are in. When the student committee states publicly that they've looked at the books and are convinced that more tuition is the only answer, you've taken the edge off the criticism.

Trust really depends on the institution. Too many administrators think of their students as temporary residents who shouldn't have much interest or influence in its policies. That's the wrong attitude, especially from a marketing view.

In students, you are building a permanent constituency. They are members of your organization, not occasional customers who are here today and gone tomorrow. They are persons who want to feel like worthwhile members of a worthwhile institution.

CURRENTS: ***After we've positioned our school in the marketplace, we need to communicate with our publics. Who does this?***

Kotler: Everyone associated with the school is a school communicator. However, I would like to see someone in charge who is especially sensitive to communications. The public relations director might be the best coordinator. Too many schools use their public relations director only for news releases, walking around visitors, and answering inquiries. He or she comes in *after* policies are decided. I would like to see the public relations director sit in on the meetings of the top administration and give input that will be part of policy-making. The best public relations people are becoming increasingly market-oriented and are interested not only in communication but in what is needed and being offered.

CURRENTS: ***Does marketing thinking reduce the autonomy of the deans and others?***

Kotler: It would be counterproductive to introduce a function that's going to cause factionalism and possibly organizational paralysis. Marketing thinking, if it is introduced correctly, will enhance the performance of the other functions.

CURRENTS: ***As you perceive higher education in general, have you any advice for us?***

Kotler: Higher education is on the defensive right now. It must convince young people and their parents that it is a "good," that they should want it, that they will benefit by it, and that they should support it.

The issue, however, is accountability. Some colleges are hurting the rest of the "industry" by not delivering real value for the money. The college-seeking public will increasingly favor those institutions that have a track record for offering a meaningful education and customer satisfaction.

Higher education is a business. It has to justify its existence through good deeds and not just through hallowed words.

For More Information

Kotler recommends these sources:

Chapman, Randall G. and Van Horn, Richard L., "Marketing Approaches to University Admissions Planning." Unpublished paper, School of Business, Queen's University, Kingston, Ontario, Canada, 1974.

Cutlip, Scott M., "Advertising Higher Education: The Early Years of College Public Relations," in ***College and University Journal***, Fall 1970, pp. 21-28.

Fram, Eugene, "Marketing Higher Education," in ***The Future in the Making***, D.W. Vermilge (editor). San Francisco: Jossey-Bass Publishers, 1973.

Gorman, W., "Marketing Approaches for Promoting Student Enrollment in Higher Educational Institutions," in ***College and University***, Spring 1974.

Ihlanfeldt, William, "A Management Approach to the Buyer's Market," in ***Liberal Education***, May 1975.

Kotler, Philip, ***Marketing for Nonprofit Organizations***, Englewood Cliffs, NJ: Prentice Hall, Inc., 1975. See especially chapter 18, "Educational Services Marketing," co-authored with Bernard Dubois.

Kotler, Philip, ***Marketing Management: Analysis, Planning and Control***, 3rd edition. Englewood Cliffs, NJ: Prentice Hall, Inc., 1976.

Krachenberg, A.R., "Bringing the Concept of Marketing to Higher Education," in ***Journal of Higher Education***, May 1972, pp. 369-380.

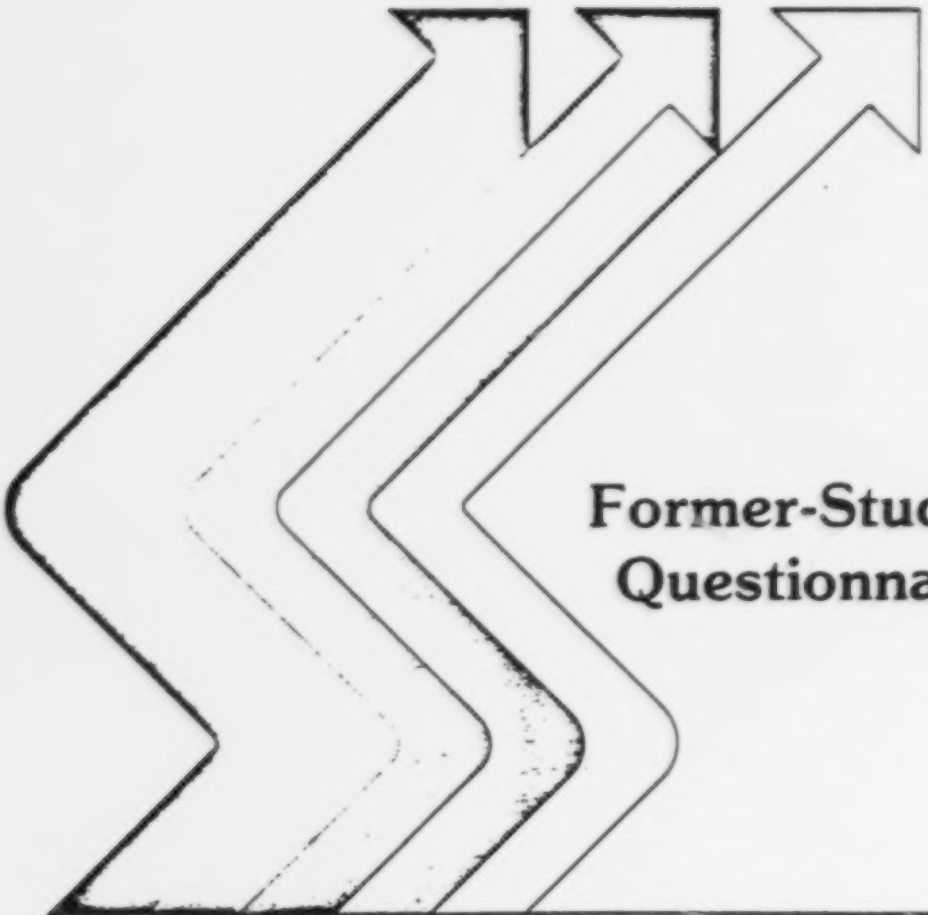
Levitt, Theodore, "Marketing Myopia," ***Harvard Business Review***, July-August 1960, pp. 45-56.

"Recruiting Looks Like an Art, Acts Like a Science," a selection of articles published in ***College and University Business***, February 1972, pp. 47-57.

A Role for Marketing in College Admissions, papers presented at the Colloquium on College Admissions, May 16-18, 1976, New York: College Entrance Examination Board, 1976.

APPENDIX AA

Former Student Questionnaire (NCHEMS)



Former-Student Questionnaire

PERSONAL IDENTIFICATION SECTION

Do not complete this section unless you are asked to do so. ***Please print.***

LAST NAME [ ] 1-12 FIRST NAME [ ] 13-20 MIDDLE INITIAL [ ] 21

ANY OTHER NAME WHICH MAY APPEAR ON YOUR SCHOOL OR COLLEGE RECORDS _____

STUDENT IDENTIFICATION NUMBER [ ] 22-30 TELEPHONE NUMBER ____ - _____

PERMANENT MAILING ADDRESS STREET AND NUMBER [ ] 31-55

CITY [ ] 56-70 STATE [ ] 71-72 ZIP CODE [ ] 73-77

National Center for Higher Education Management Systems
The College Board

BEST COPY AVAILABLE

STANDARD QUESTIONS SECTION

INSTRUCTIONS:

Specific directions are given for completing many of the questions in this questionnaire. Where no directions are given, please circle the number or letter of the most appropriate response, such as in the sample question below.

Sample:

4. Are you currently married?
   0 Yes
   (1) No

If you are not currently married, you would circle the number 1.

1. What is your sex?
   0 Female
   1 Male

2. How do you describe yourself? *Circle one.*
   0 American Indian or Alaskan Native
   1 Asian, Pacific Islander, or Filipino
   2 Black or Afro-American
   3 Hispanic, Chicano, or Spanish-speaking American
   4 White or Caucasian
   5 Other _____

3. How old are you?
   0 Under 18
   1 18 to 22 years
   2 23 to 25 years
   3 26 to 30 years
   4 31 to 40 years
   5 41 to 50 years
   6 51 to 60 years
   7 61 years or more

4. Are you currently married?
   0 Yes
   1 No

5. Do you feel that you have a permanent handicap? *Circle* **all** *that apply.*
   0 No
   1 Yes, restricted mobility
   2 Yes, restricted hearing
   3 Yes, restricted vision
   4 Yes, but I prefer not to record it on this form
   5 Other _____

6. How long did you attend our college?
   0 One term
   1 One year
   2 Two years
   3 Three years
   4 Four years
   5 Five years
   6 Six years
   7 More than six years

7. The following statements reflect the goals of many college students. *In the first column, please circle the letters of those goals that were important to you when you attended our college. In the second column, circle the letters of those goals you feel you are achieving or have achieved as a result of your experiences at our college.*

These goals were important to me		These goals I am achieving or have achieved	
		Academic Goals	
A	A	To increase my knowledge and understanding in an academic field	
B	B	To obtain a certificate or degree	
C	C	To complete courses necessary to transfer to another educational institution	
D	D	Other _____	
		Career-Preparation Goals	
E	E	To discover career interests	
F	F	To formulate long-term career plans and/or goals	
G	G	To prepare for a new career	
H	H	Other _____	
		Job- or Career-Improvement Goals	
I	I	To improve my knowledge, technical skills and/or competencies in my job or career	
J	J	To increase my chances for a raise and/or promotion	
K	K	Other _____	
		Social- and Cultural-Participation Goals	
L	L	To become actively involved in student life and campus activities	
M	M	To increase my participation in cultural and social events	
N	N	To meet people	
O	O	Other _____	
		Personal-Development and Enrichment Goals	
P	P	To increase my self-confidence	
Q	Q	To improve my leadership skills	
R	R	To improve my ability to get along with others	
S	S	To learn skills that will enrich my daily life or make me a more complete person	
T	T	To develop my ability to be independent, self-reliant, and adaptable	
U	U	Other _____	

8. From the list of goals in question 7, please select the three that were most important to you when you attended our college. For example, if your most important goal was "To obtain a certificate or degree," enter the letter B in the first box.

Most Important	Second Most Important	Third Most Important
131	132	133

9. What degree were you seeking when you attended our college?
   0 Not seeking a certificate or degree
   1 Certificate
   2 Associate degree
   3 Bachelor's degree
134 4 Master's degree
   5 Specialist degree (e.g., Ed.S.)
   6 Professional degree (e.g., medicine, law, theology)
   7 Doctoral degree (e.g., Ph.D., Ed.D., D.B.A.)

10. a. Please write in your major or area of study at our college.

_____

b. Now look at **List A: Majors and Areas of Study** and enter in the boxes below the code number of the categor in which your major or area of study falls.

135-136

11. a. Was our college your first choice?
   0 Yes
139 1 No

b. If no, what kind of college was your first choice?
   0 A public two-year college
   1 A public four-year college or university
140 2 A private college or university
   3 A vocational/technical school, hospital school of nursing, trade school, or business school
   4 Other _____

12. What was the name of the college that was your first choice?

_____

12. Wneh you left our college, what was your overall grade point average (GPA)?
   0 4.00 to 3.01
   1 3.00 to 2.01
   2 2.00 to 1.01
   3 1.00 or less
   4 Unknown or did not have one

13. What was your primary enrollment status when you attended our college?
   0 Primarily for credit—full-time (12 or more hours each term enrolled)
142 1 Primarily for credit—part-time (less than 12 hours each term enrolled)
   2 Primarily **not** for credit

14. While you were enrolled, how many hours did you normally work when classes were being held?
   0 I was not employed
   1 Employed 1-10 hours per week
143 2 Employed 11-20 hours per week
   3 Employed 21-35 hours per week
   4 Employed 36 hours or more per week

15. Did you apply for financial assistance (loan or scholarship) while at our college?
   0 Yes, and I received it
   1 Yes, but I did not receive it
144 2 Yes, but I left before I found out if I received it
   3 No

16. The decision to leave a particular college can be motivated by a variety of reasons. *Please circle the letters of* **all** *of the reasons that contributed to your decision to leave our college.*

Academic Reasons

145 A Achieved my academic goals
146 B Transferred to another college
147 C Needed a break from college
148 D Courses/programs I wanted were not available
149 E Dissatisfied with my academic performance
150 F Dissatisfied with the quality of teaching
151 G Dissatisfied with the learning environment
152 H Course work not what I wanted
153 I Unsure of my academic goals
154 J Other _____

Financial Reasons

155 K Did not have enough money to continue
156 L Could not obtain sufficient financial aid
157 M Could not earn enough money while enrolled
158 N Other _____

Other Reasons

159 O Achieved my personal goals
160 P Accepted a job or entered the military
161 Q College experience not what I expected
162 R Few people I could identify with
163 S Moved out of the area
164 T Could not work and go to school at the same time
165 U Other responsibilities became too great
166 V Personal problems
167 W Other _____

17. From the list of reasons in question 16, please select the three most important reasons and enter their codes below. For example, if the most important reason was that you "Transferred to another college," enter the letter B in the first box.

Most Important	Second Most Important	Third Most Important

18. The following are services provided by colleges. How would you evaluate these services as provided by our college? *For each service, circle the number of the response that is most appropriate.*

0 = I did not know about this service
1 = I knew about this service but did not use it
2 = I used this service and was satisfied with it
3 = I used this service but was not satisfied with it

0 1 2 3	Admissions
0 1 2 3	Registration
0 1 2 3	Business office
0 1 2 3	Academic advising
0 1 2 3	Guidance, counseling, and testing
0 1 2 3	Reading, writing, math, and study-skills improvement
0 1 2 3	Tutoring
0 1 2 3	Minority affairs
0 1 2 3	College cultural programs
0 1 2 3	Recreation and athletic programs
0 1 2 3	Financial aid
0 1 2 3	Student employment
0 1 2 3	Career planning
0 1 2 3	Job placement
0 1 2 3	Housing services
0 1 2 3	Cafeteria
0 1 2 3	Health services
0 1 2 3	Library
0 1 2 3	Child care
0 1 2 3	Bookstore
0 1 2 3	Parking
0 1 2 3	Campus security
0 1 2 3	Other _____

19. a. Do you currently have plans for additional education?
0 No, not at this time
1 Yes, I plan to reenroll at this college
2 Yes, I have already enrolled at another college
3 Yes, I plan to enroll at another college
4 I am currently undecided about any additional education

b. If you circled responses 2 or 3, please write in the name of the college you plan to attend or are attending.

_____

ADDITIONAL QUESTIONS SECTION

Additional questions may have been added to this printed form by your college. If you have been asked to answer additional questions, please use the boxes below to record your responses.

☐ 20	☐ 21	☐ 22	☐ 23	☐ 24
☐ 25	☐ 26	☐ 27	☐ 28	☐ 29
☐ 30	☐ 31	☐ 32	☐ 33	☐ 34

Please use the space below for any comments you have about our college, this questionnaire, or anything else you care to share with us.

APPENDIX BB

Worksheets for Predicting Chances of Dropping Out (Astin, 1975)

WORKSHEETS FOR PREDICTING CHANCES OF DROPPING OUT

This section will enable policy-makers, administrators, and students to compute measures of dropout-proneness for any individual student or any group of students. Individual students can simply answer the questions in the attached tables and compute their own probabilities of dropping out. The probabilities are based on the predictions in which stopouts and dropouts were combined. Average measures of dropout-proneness of any group of students can also be calculated directly from aggregate student data, assuming appropriate data are available. In using such data, the mean values can be treated in exactly the same way as an individual student's response to a particular question. The procedures for using the tables are as follows:

Step 1. Answer each question and record the score associated with that answer in the space provided. If the answer is not available for a particular question, substitute the mean value from the appropriate student group (white men, white women, blacks in

black colleges, or blacks in white colleges). In certain circumstances it may make more sense to estimate the response rather than to use the mean. For example, for a student at a highly selective college who does not report his or her average high school grades, it may be more appropriate to substitute the mean grades for students at that college (if available) or some estimate of that mean, rather than the values provided in the attached tables.

Step 2. Multiply the score for each item by the corresponding regression weight for that item and record the product in the space provided. Use the appropriate weight corresponding to the student's race and sex (white women, white men, blacks in black colleges, and blacks in white colleges).

Step 3. Sum the products and record the total in the space provided.

Step 4. Add the appropriate constant #1 to the sum and record the result in the space provided. Note the sign of the constant.

Step 5. Multiply the total by 100 and record the result. This figure equals the chances in 100 of dropping out.

Persons using these Worksheets should keep in mind several additional considerations:

First, all students who aspire to less than a bachelor's degree (for example, the associate degree) or to no degree should be omitted.

Second, any measure of actual dropout rates should carefully follow the definitions in Chapter One.

Third, no items should be omitted, and every category of categorical items (religion, race, degree plans, home town, and place of residence) should receive a score (1 or 2). If the information needed to fill in the variable score is not available, the appropriate mean should be used, except in the circumstances noted in Step 1. One other possible exception to the use of these means concerns the student's religious preference and the religion of the

parents. For example, if only the student's religious preference (Religion Now) is known, it is more appropriate to assume that the parents' religion (Religion Reared) is the same than to enter the means. Similarly, if information is available only on the parents' religion, it is more appropriate to assume that the student's religion is the same. These assumptions are necessary because the weights for the regression equations were derived under circumstances where *both* parents' and students' religious preferences were known.

Somewhat more accurate estimates of dropout probabilities can be obtained by adding to the student input information data about the student's financial aid, work status, and residence during the freshman year. As shown in Chapters Three, Four, and Five, each of these classes of information adds significantly to the prediction of dropout chances. The additional steps for taking into account such data are:

Step 6. Enter information on each of the finance, work, and residence variables in the space provided.

Step 7. Multiply the variable score from Step 6 by the appropriate regression weight and record the product in the space provided.

Step 8. Sum the products obtained in Step 7 and enter the total in the space provided.

Step 9. Add the appropriate constant #2 to the total obtained in Step 8 and enter the result in the space provided.

Step 10. This is a two-stage step. First, add 1.0 to the value obtained in Step 4. Next, multiply the result by the appropriate constant #3, and enter the result in the space provided.

Step 11. Sum the results obtained in the previous two steps (9 and 10) and enter the result.

Step 12. Multiply the value from step 11 by 100 and enter the result in the space provided. This represents the chance (in 100) of dropping out based on student-input, financial aid, work, and residence variables.

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WORKSHEET — *Part One*

Predicting Chances of Dropping Out Using Student Variables

Variable Name and Scoring	STEP 1 Enter Variable Score	REGRESSION WEIGHTS (MEAN VALUES) White Men	White Women	Blacks in Black Colleges	Blacks in White Colleges	STEP 2 Enter Product of Variable Score and Appropriate Weight
1. Average high school grade (A+ or A = 8, A- = 7, B+ = 6, B = 5, B- = 4, C+ = 3, C = 2, D = 1)	1.____	—.04725 (4.2839)	—.03737 (5.2047)	—.04122 (4.1426)	—.02719 (3.9739)	1.____
2. Rank in high school class (top 1 percent = 6, top 10 percent = 3, top quarter = 4, second quarter = 3, third quarter = 2, fourth quarter = 1)	2.____	—.02978 (3.4567)	—.01205 (3.9201)	—.02080 (3.7548)	—.06213 (3.3647)	2.____
3. College admissions test scores (combined score for SAT verbal plus mathematical)	3.____	—.00014 (984)	—.00029 (1002)	—.00006 (737)	—.00007 (920)	3.____
4. Student's academic rating of high school (very high = 5, fairly high = 4, about average = 3, probably below average = 2, definitely below average = 1)	4.____	—.00864 (3.9475)	—.01474 (4.0185)	—.02937 (3.6809)	—.02170 (3.8067)	4.____
Family Background						
5. Religion reared—Protestant (yes = 2, no = 1)	5.____	—.05389 (1.5130)	—.01620 (1.5418)	—.12747 (1.5555)	—.14035 (1.5434)	5.____
6. Religion reared—Catholic (yes = 2, no = 1)	6.____	—.12124 (1.3337)	—.00000 (1.3222)	—.36613 (1.0431)	—.29750 (1.1533)	6.____
7. Religion reared—Jewish (yes = 2, no = 1)	7.____	—.10309 (1.0590)	—.05026 (1.0627)	.00000 (1.0000)	—.44208 (1.0044)	7.____
8. Religion reared—other (yes = 2, no = 1)	8.____	—.05328 (1.0606)	—.09660 (1.0443)	—.14687 (1.3500)	—1.7347 (1.2479)	8.____
9. Religion reared—none (yes = 2, no = 1)	9.____	—.13312 (1.0251)	.02576 (1.0222)	—.31821 (1.0154)	—.02796 (1.0114)	9.____
10. Religion now—Prostetant (yes = 2, no = 1)	10.____	—.03078 (1.4435)	—.02740 (1.4817)	—.02371 (1.4928)	—.11759 (1.4792)	10.____
11. Religion now—Catholic (yes = 2, no = 1)	11.____	.00000 (1.3031)	—.07643 (1.3033)	.13241 (1.0666)	—.06529 (1.1505)	11.____
12. Religion now—Jewish (yes = 2, no = 1)	12.____	—.11986 (1.0511)	—.08210 (1.0549)	—.43754 (1.0010)	—.20840 (1.0019)	12.____
13. Religion now—other (yes = 2, no = 1)	13.____	.05581 (1.0696)	.07450 (1.0567)	—.00353 (1.3191)	—.08518 (1.2202)	13.____
14. Religion now—none (yes = 2, no = 1)	14.____	.07464 (1.1082)	.08703 (1.0762)	.04624 (1.0388)	—.03243 (1.0705)	14.____
15. Father's education (grammar school or less = 1, some high school = 2, high school graduate = 3, some college = 4, college graduate = 5, postgraduate degree = 6)	15.____	—.01691 (3.4280)	—.01066 (3.6487)	—.02431 (2.4645)	.00326 (2.7228)	15.____
16. Mother's education (grammar school or less = 1, some high school = 2, high school graduate = 3, some college = 4, college graduate = 5, postgraduate degree = 6)	16.____	—.01005 (3.2933)	—.01580 (3.4829)	.00237 (2.7584)	—.03910 (2.9643)	16.____
17. Student's concern about finances (no concern = 1, some concern = 2, major concern = 3)	17.____	.00405 (1.7418)	.03917 (1.7353)	.05743 (2.0395)	—.01690 (1.9660)	17.____

WORKSHEET — *Part One (Continued)*

Predicting Chances of Dropping Out Using Student Variables

Variable Name and Scoring	STEP 1 Enter Variable Score	REGRESSION WEIGHTS (MEAN VALUES) White Men	White Women	Blacks in Black Colleges	Blacks in White Colleges	STEP 2 Enter Product of Variable Score and Appropriate Weight
18. Race—Oriental (yes = 2, no = 1)	18.____	—.07395 (1.0112)	—.09539 (1.0101)	—.08553 (1.0009)	—.10127 (1.0322)	18.____
19. Race—other (yes = 2, no = 1)	19.____	.03314 (1.0114)	.09119 (1.0075)	—.04165 (1.0016)	—.04786 (1.0404)	19.____
20. Lived on a farm most of time growing up (yes = 2, no= 1)	20.____	.04963 (1.0881)	—.04256 (1.0892)	.01104 (1.1246)	—.04669 (1.0393)	20.____
21. Lived in a small town most of time growing up (yes = 2, no = 1)	21.____	.05581 (1.1863)	—.01255 (1.1963)	.05125 (1.2373)	.06180 (1.1518)	21.____
22. Lived in a moderate size city or town most of time growing up (yes = 2, no = 1)	22.____	.01292 (1.3202)	—.01497 (1.3291)	—.00306 (1.3552)	.00517 (1.2853)	22.____
Educational Aspirations						
23. Highest degree planned—bachelor's (yes = 2, no = 1)	23.____	.11867 (1.3693)	.03666 (1.5135)	.05649 (1.3324)	.14308 (1.3892)	23.____
24. Highest degree planned—master's (yes = 2, no = 1)	24.____	.04466 (1.3422)	—.02476 (1.3662)	—.01410 (1.4016)	.01272 (1.3288)	24.____
25. Highest degree planned—Ph.D. or Ed.D. (yes = 2, no = 1)	25.____	.00134 (1.1653)	.00525 (1.0640)	.01827 (1.1922)	.00000 (1.1703)	25.____
26. Highest degree planned—professional (yes = 2, no = 1)	26.____	.00000 (1.0943)	.00000 (1.0234)	.00000 (1.0498)	.08016 (1.0525)	26.____
27. Highest degree planned—other (yes = 2, no = 1)	27.____	.23581 (1.0289)	.25788 (1.0329)	.13189 (1.0240)	.32027 (1.0593)	27.____
28. Expects to be an engineer (yes = 2, no = 1)	28.____	.06081 (1.1603)	.20798 (1.0029)	—.07980 (1.0259)	.19658 (1.0607)	28.____
Study Habits During Past Year						
29. Turned in assigned work on time (always = 4, usually = 3, sometimes = 2, rarely or never = 1)	29.____	—.03029 (3.4194)	—.02522 (3.6149)	—.06281 (3.4740)	—.03638 (3.4097)	29.____
30. Did homework at the same time every day (always = 4, usually = 3, sometimes = 2, rarely or never = 1)	30.____	—.02189 (2.2512)	—.00759 (2.4311)	—.00282 (2.0193)	—.00592 (2.0881)	30.____
31. Made careless mistakes on test (always = 4, usually = 3, sometimes = 2, rarely or never = 1)	31.____	—.01530 (1.9948)	—.04688 (1.9143)	—.02100 (2.0254)	—.01366 (2.0067)	31.____
32. Kept desk or study place neat (always = 4, usually = 3, sometimes = 2, rarely or never = 1)	32.____	.01468 (2.8262)	.00943 (2.8983)	—.00892 (3.0963)	.04986 (3.0728)	32.____
33. Did extra-credit work (always = 4, usually = 3, sometimes = 2, rarely or never = 1)	33.____	.01195 (1.8316)	.02843 (2.0146)	.03601 (2.1679)	.01971 (2.1280)	33.____
34. Carefully went over diagrams or tables in textbook (always = 4, usually = 3, sometimes = 2, rarely or never = 1)	34.____	.01686 (2.5305)	.00555 (2.5781)	.02875 (2.6603)	.02954 (2.6639)	34.____
35. Was too bored to study (always = 4, usually = 3, sometimes = 2, rarely or never = 1)	35.____	.00899 (1.8097)	.02822 (1.6429)	.00246 (1.5772)	.05861 (1.6285)	35.____

WORKSHEET — *Part One (Continued)*

Predicting Chances of Dropping Out Using Student Variables

Variable Name and Scoring	STEP 1 Enter Variable Score	REGRESSION WEIGHTS (MEAN VALUES) White Men	White Women	Blacks in Black Colleges	Blacks in White Colleges	STEP 2 Enter Product of Variable Score and Appropriate Weight
36. Had trouble concentrating on assignments (always = 4, usually = 3, sometimes = 2, rarely or never = 1)	36.____	.02058 (1.9507)	—.00619 (1.8161)	.02073 (1.9156)	.06181 (1.9192)	36.____
37. Studied with radio or record player on (always = 4, usually = 3, sometimes = 2, rarely or never = 1)	37.____	.01351 (1.8214)	.01715 (1.7597)	.05995 (1.8294)	—.03651 (1.8133)	37.____
38. Studied alone (always = 4,usually = 3, sometimes = 2, rarely or never = 1)	38.____	.00024 (3.3935)	.00000 (3.4013)	—.05626 (3.1761)	.01639 (3.3277)	38.____
39. Failed to complete a homework assignment on time (frequently = 3, occasionally = 2, not at all = 1)	39.____	.03399 (1.7355)	.02664 (1.5261)	.00646 (1.6625)	—.04900 (1.6722)	39.____
Expectations About College ("What is your best guess as to the chances that you will. . .")						
40. Drop out temporarily (no chance = 1, very little chance = 2, some chance = 3, very good chance = 4)	40.____	.04462 (1.6260)	.00303 (1.6345)	—.00776 (1.6396)	.03699 (1.5736)	40.____
41. Transfer before graduating (no chance = 1, very little chance = 2, some chance = 3, very good chance = 4)	41.____	—.01596 (2.3197)	—.00540 (2.3496)	—.04557 (2.0102)	—.05061 (2.1198)	41.____
42. Get married while in college (no chance = 1, very little chance = 2, some chance = 3, very good chance = 4)	42.____	.02052 (2.0252)	.04281 (2.1971)	.00264 (1.9363)	.01264 (1.8741)	42.____
43. Obtain overall GPA of A- or better (no chance = 1, very little chance = 2, some chance = 3, very good chance = 4)	43.____	.03869 (2.2579)	.04190 (2.1956)	.00279 (2.3407)	.02546 (2.3717)	43.____
44. Graduate with honors (no chance = 1, very little chance = 2, some chance = 3, very good chance = 4)	44.____	.02306 (2.4842)	—.00069 (2.3768)	.01788 (2.6146)	.02490 (2.5527)	44.____
45. Be elected to an academic honor society (no chance = 1, very little chance = 2, some chance = 3, very good chance = 4)	45.____	—.02961 (2.2183)	—.02492 (2.2183)	.02462 (2.3158)	—.05742 (2.1204)	45.____
Other Student Characteristics						
46. Sex (male = 1, female = 2)	46.____	.00000 (1.0000)	.00000 (2.0000)	—.01973 (1.5739)	.00237 (1.4985)	46.____
47. Age at college entry (16 or younger = 1, 17 = 2, 18 = 3, 19 = 4, 20 = 5, 21 = 6, older than 21 = 7)	47.____	.00357 (3.3403)	.03867 (3.1341)	—.01379 (3.3206)	.03457 (3.5868)	47.____
48. Smoked cigarettes in high school (frequently = 3, ocassionally = 2, not at all = 1)	48.____	.).%%) (1.5937)	.)'%¢¢ (1.4551)	.11826 (1.4484)	.10546 (1.4279)	48.____

WORKSHEET — *Part One (Continued)*

Predicting Chances of Dropping Out Using Student Variables

Variable Name and Scoring	STEP 1 Enter Variable Score	REGRESSION WEIGHTS (MEAN VALUES) White Men	White Women	Blacks in Black Colleges	Blacks in White Colleges	STEP 2 Enter Product of Variable Score and Appropriate Weight
49. Won varsity letter in high school (yes = 2, no = 1)	49.____	—.05242 (1.4533)	—.02740 (1.1450)	.00463 (1.2403)	—.03967 (1.2952)	49.____
50. Married when entering college (no = 1, yes = 2)	50.____	—.08417 (1.0178)	.10658 (1.0198)	.02116 (1.0191)	.07893 (1.0612)	50.____
51. Overslept and missed a class or appointment in high school (frequently = 3, occasionally = 2, not at all = 1)	51.____	—.01238 (1.2407)	.00734 (1.1552)	.00447 (1.2116)	.03253 (1.2412)	51.____
52. Estimate of chance of marrying within year after college (no chance = 1, very little chance = 2, some chance = 3, very good chance = 4)	52.____	—.00759 (2.5669)	—.00998 (2.7353)	—.00228 (2.3630)	.02424 (2.3292)	52.____
CONSTANT #1:		.51853	.34803	2.03694	1.056640	

Step 3: Sum the products obtained in Step 2 _____

Step 4: Add the appropriate Constant #1 _____

Step 5: Multiply by 100 _____ = chances in 100 of dropping out

NOTE: An approximate adjustment for errors in measurement of characteristics of entering students (see Astin, 1975) can be made by multiplying the first result from Step 5 by 1.11 and subtracting a constant from the result. The constants for the four groups are: white men, 3.0; white women, 3.4; blacks in black colleges, 2.9; blacks in white colleges, 5.6.

WORKSHEET — *Part Two*

Predicting Chances of Dropping Out Using Additional Variables on Financial Aid, Work Status, and Place of Residence

Variable Name and Scoring	STEP 6 Enter Variable Score	REGRESSION WEIGHTS White Men	White Women	Blacks in Black Colleges	Blacks in White Colleges	STEP 7 Enter Product of Variable Score and Appropriate Weight
Sources of Financial Aid During Freshman Year						
53. Personal savings and/or employment (major support = 3, minor support = 2, not a source = 1)	53.____	.00189 (2.102)	.00443 (1.804)	—.00225 (1.510)	—.02215 (1.761)	53.____
54. Parental or other family aid (major support = 3, minor suport = 2, not a source = 1)	54.____	—.01243 (2.194)	—.02534 (2.485)	—.00548 (1.920)	—.03446 (1.905)	54.____
55. Repayable loan (major support = 3, minor support = 2, not a source = 1)	55.____	.03052 (1.340)	—.00553 (1.399)	.00474 (1.792)	—.04614 (1.493)	55.____
56. Scholarship, grant, or other gift (major support = 3, minor support = 2, not a source = 1)	56.____	—.02177 (1.470)	—.01130 (1.533)	—.01819 (1.786)	—.03308 (1.809)	56.____
Work Status During Freshman Year						
57. Federally sponsored work-study program (yes = 2, no = 1)	57.____	—.02007 (1.024)	—.04994 (1.052)	—.15420 (1.111)	—.09535 (1.119)	57.____
58. Other on-campus work (yes = 2, no = 1)	58.____	—.03132 (1.063)	—.03949 (1.086)	—.00036 (1.044)	—.12293 (1.059)	58.____
59. Off-campus work (yes = 2, no = 1)	59.____	—.07779 (1.219)	—.04612 (1.151)	.04234 (1.075)	—.07201 (1.138)	59.____
60. Employment for college credit as part of departmental program (yes = 2, no = 1)	60.____	—.04905 (1.021)	.03811 (1.004)	.39389 (1.002)	—.11783 (1.007)	60.____
61. Number of hours worked per week (25 or more = 6, 20-24 = 5, 15-19 = 4, 10-14 = 3, 5-9 = 2, fewer than 5 = 1)	61.____	.01898 (3.425)	.01069 (2.830)	—.01641 (2.941)	.01772 (3.629)	61.____
Place of Residence During Freshman Year						
62. College dormitory (yes = 2, no = 1)	62.____	—.12709 (1.505)	—.12237 (1.642)	—.13246 (1.686)	—.06512 (1.428)	62.____
63. With parents (yes = 2, no = 1)	63.____	.00865 (1.382)	—.01113 (1.302)	.02303 (1.247)	.03238 (1.443)	63.____
64. Other (yes = 2, no = 1)	64.____	.00000 (1.114)	.00000 (1.067)	.00000 (1.067)	.00000 (1.129)	64.____
CONSTANT #2:		—.74759	—.57726	—.98557	—.17663	
CONSTANT #3:		1.05478	.96388	.99844	.88590	

Step 8: Sum the products obtaines in Step 7 _____

Step 9: Add the appropriate Constant #2 _____

Step 10: Add 1.0 to the value from Step 4, multiply the result by appropriate Constant #3, and enter product _____

Step 11: Sum the results from Steps 9 and 10 _____

Step 12: Multiply by 100 _____ = chances in 100 of dropping out